NYPL RESEARCH LIBRARIES
3 3433 06823861 1

ZEX
Lee

The Religion of Science

THE FAITH OF COMING MAN

By
JAMES W. LEE
Author of "The Making of a Man," etc.

NEW YORK CHICAGO TORONTO
Fleming H. Revell Company
LONDON AND EDINBURGH

CENTRAL RESERVE

Copyright, 1912, by
FLEMING H. REVELL COMPANY

TRANS. TO CENTRAL RESERVE

New York: 158 Fifth Avenue
Chicago: 125 North Wabash Ave.
Toronto: 25 Richmond Street, W.
London: 21 Paternoster Square
Edinburgh: 100 Princes Street

M 35659

239
S1

Preface

THERE are persons now living, and not very old, who can remember the time when the doctrinal abode of the preacher stood out in every community as the most conspicuous, the most securely built, and the most amply-furnished of all the mental dwelling places in which leaders of thought were accustomed to house themselves. To-day it is apparent to all who observe that the theological home of the minister is not the same centre of authority and light and leadership that it was fifty years ago.

The aim of this book may be described as an attempt to point out that no fresh reasons have been discovered in the nature of God, or in the nature of man, or in the nature of religion to make it necessary for the preacher of the present day to live in any of the less commanding intellectual quarters than he formerly occupied.

The constituent elements of human nature have certainly not changed since Darwin wrote "The Origin of Species." The Creator of all things is the same yesterday, to-day and forever. Religion, as representing the relation between the divine and the human, is necessarily changeless. Now, with a field of action as permanent and as wide as that opened up by the terms, "God," and "man," and

"religion," and one as far removed from that of mathematical determinism and soulless mechanism as spirit is from matter, how has it come about that the average preacher of the present period has lost the note of triumph and confidence and joy recognized in the message of the pulpit of the past generation?

It is doubtless true that much confusion has been due to the brilliant enterprise of modern thinkers, who began taking down the framework of the material universe, as it stood in the minds of the fathers, about the middle of the last century.

It should have been clear, however, to all readers of history that God, and man, and religion, are not dependent for their existence upon the fashion of the physical order students of nature may see their way clear at any time to disclose. They have managed to live and move and have their being in more than a thousand different styles of tangible universe already. When Mr. Emerson was met one morning on the streets of Concord and informed by an enthusiastic disciple of William Miller that the world would come to an end on the following Thursday, he responded by saying: "I can get along very well without the world," and resumed his meditations.

Amid the consternation that seized the people of London in 1750, when England was shaken by an earthquake, Charles Wesley sought to allay the terror by sending forth in a hymn his own confidence:

"Let earth's inmost centre quake
And shattered nature mourn:
Let the unwieldy mountains shake
And fall, by storms uptorn—
Fall with all their trembling load,
Far into the ocean hurled;
Lo! we stand secure in God,
Amidst a ruined world."

The prophets of religion are just recovering from the panic by which the leaders of the Church were seized when they first heard the loud-resounding crash of the rafters and gable-ends of the constellations the builders of the new heavens were pulling down around their heads. They have lived long enough since the breaking up of the old material order to learn that they can get along very well without the world the fathers knew. In fact, they find the new one roomier and better adapted to theological housekeeping than the old one. It is becoming clear that faith in human life and belief in God, and the vision of spiritual truth, are not now and were never dependent upon their anchorage to any particular conception of the earth, its origin, its age, or its structure. Religion is an inside affair of the soul and its relation to God, and not one of outside cosmogonies.

We of this generation are making the amazing discovery, too, that students of the visible world never had any valid reason for supposing that they had a monopoly of all the territory open to scientific explorers. They do not know theoretically any more about material realities than the preach-

ers know theoretically about spiritual realities. There is absolutely no scientific knowledge of the outside world of tangible fact or of the inside world of spiritual fact, except such as man has gained by the test of experiment. The human intellect is capable of spinning theories to wrap around everything in heaven and in earth, but not one of these theories can be called scientific until it is tested by the will in action, and proven to be verifiable in experience.

This is true of theories that concern God and man and religion as completely as of theories that concern rocks and birds and stars. One's theory of gravity may embrace a thousand items, but only one of them can stand the test of science and that one is the truth that bodies attract one another in proportion to their mass and inversely as the squares of their distance. One may pack away into his theory of gravity all the plausible suppositions and reasonable assumptions concerning it he may please, but all he can find in it available for science is the limited aspect of it he can verify by the practical test of action.

The conquests of physical science have been so magnificent in recent times that the average man has come to think all the theories held by the students of nature are verifiable. There could not be a greater mistake. Because the preachers have made no claims to holding theories concerning God and man and religion capable of scientific verification, the average man has come to think that all

genuine demonstrable knowledge is in the possession of the students of nature. There could not be a greater mistake.

The teachers of religion have as many doctrines capable of verification in experience by the test of the will in action as the teachers of physical science have of doctrines they can verify by the same practical method.

Most of the theories held by leaders of physical science are unproven opinions, generalizations more or less plausible, guesses more or less probable as to the nature of the different classes of fact with which they severally deal. There is a modicum of wheat in all their straw, a few grains of gold in all their mountains of slag. This little wheat and this little gold is all they find available for practical science, that is, for bread and for currency. They have been able by the exercise of the will to objectify only a few of their hypotheses in the work of every-day life. They have converted a sufficient number of them into practice, however, to cook our food, light our streets, turn our mills, drive our cars, propel our steamships and revolutionize our material civilization. Because of the service rendered to our common life by turning a few of their guesses at truth into undeniable results, they have found themselves credited by the unthinking multitudes for having as much dynamic force in the theories they cannot objectify in practical life as for those they can put to work. By cashing a few items of their knowledge into useful service, they have received

credit from the general public for being rich by all their dreams and guesses and theories for which they can find no equivalents in the world of affairs.

The scientists managed for a time to increase the alarm with which they were regarded by the leaders of the Church not only by dogmatizing on their guesses at physical truth, but by invading the domain of the Lord's prophets and there dogmatizing about God and man and religion with as much unblushing arrogance as ever the most conceited, deluded teacher of religion did about the sun, or the age of the world, or the shape of the earth, or the circulation of the blood. It is a remarkable fact that estranging differences and bitter contentions among men have never grown out of that small part of their knowledge convertible into useful results, but always out of their theoretical opinions which had no bearing one way or another upon the work of every-day life.

Most of the dogmas held by theologians about God and man and religion are theoretical, intellectual, and speculative and cannot possibly be made scientific by the test of the will in practice. They are not on that account, however, to be regarded as of no value. They are helpful as furnishings for the mental abode of the minister. No scientist would ever be able to find a theory he could convert into practical use, if he did not imagine a thousand he could not.

Theological dogmas that cannot be verified in

experience are to be honoured as embodying the spiritual imagery of the religious leaders of mankind. It may be found in the world to come that many of them are true. They are to be esteemed as profitable for intellectual discipline, but not here and now verifiable by the objectifying function of the will, and, therefore, not scientific. And the same may be said of the unverifiable doctrines of the physical scientists—they are to be esteemed as means of mental exercise and training, but not as scientific.

Out of vast piles of theological straw the spiritual leaders of our race have found wheat enough to make the bread of life without which the teeming millions of God's hungry children would have starved. Out of the mountains of dogmatic slag they have found gold enough to enrich human life. They have found items enough in their religious knowledge capable of verification by the action of the will to lift humanity from sin to holiness, from hate to love, from despair to hope, from hell to heaven. While the students of nature have been objectifying a small portion of their knowledge in steam engines, and telegraph systems and electrical appliances, the professors of religion have been objectifying the practical knowledge they possess in John Howards, John Wesleys and Florence Nightingales.

When the teachers of physical science and the teachers of religion separate their theoretical from their practical knowledge ; their merely intellectual

learning from such as they can verify in experience; the speculative opinions they think by from the vital principles they live by, it will be found that the preachers have as many items of truth they can verify by the test of experience and objectify in radiant character, as the professors of physics have of such as they can test in the laboratory and objectify in railway trains and flying machines.

The preacher and the professor might have known all along that the one had as much basis in science for the practical truth he taught about God and man and religion as the other had for what he taught about heat and gravity and atoms, had it not been that both preacher and professor were labouring under the old philosophic delusion that man can have no verifiable scientific knowledge, except such as he can make out of sensations brought through the physical senses from outside tangible objects. Ever since the publication of "The Critique of Pure Reason," the human mind has been obsessed, imprisoned by the miserable philosophical enclosure thrown around it by Immanuel Kant by which it was barricaded against the entrance of every kind of knowledge, except such as brought in reports about the world of material things. The mind, it was philosophically said, could know phenomena, the appearance of things, but not noumena, what the things really meant, or what they were in themselves. Happily this depressing philosophical delusion is passing away. The Bergsons, the Euckens and the Wards,

those philosophical evangels of the new time, are opening up a freer, brighter, wider world for human beings to think in and live in. We are beginning to recognize now that the phenomena, or appearance of things, are only intelligible through the noumena, the light in things, the thing-in-itself, immanent in them. The so-called noumena of things constitute their relations, the thought they express through their phenomena, or appearances. The thing-in-itself of the universe is the immanent mind of the Almighty. Therefore, it is intelligible through and through. God is intelligible, for He is related to the universe, His dwelling place, and to man, His child. Man is intelligible, for he is related to God, his Father, and to others of his kind, his brothers, and to the world, his home. Religion is intelligible, for it consists of the relations between God and His children. Whatever is intelligible, whatever has relations, can be treated by the scientific method. And whatever truth there is in God or in man or in religion or in the universe that can be verified in experience and objectified in life, or in human affairs, is scientific truth.

JAMES W. LEE.

St. Louis, Mo.

Contents

	Introduction	17
I.	What Is Science?	67
II.	Perception, the Beginning of Science	103
III.	Facts, the Raw Material of Science	127
IV.	The Test of Science	149
V.	Religion of Science Implied in the Everlasting Search for God .	177
VI.	Christ the Reason of the Universe	231
VII.	Christianity, the Religion of Science	255
VIII.	Conclusion	275

Introduction

Introduction

ONLY within times called modern has it been possible to speak of the heavenly bodies as the stars of science; or of the chemical elements as the atoms of science; or of fire as the heat of science; or of trees as the plants of science; or of living creatures as the animals of science. And yet stars were shining, atoms were whirling, fires were burning, trees were growing and herds were lowing, from the beginning of history. The difference between the constellations Abraham saw from the Chaldean plains and the wheeling orbs Sir Norman Lockyer sees from the Greenwich observatory is the difference between birds a-wing in the broom-sedge and partridges a-cage in the trap; or the difference between cattle, unclaimed, unmarked and wild on the prairies, and live stock, counted, branded, and owned in the pen. Modern astronomy is the mental enclosure students have established for corralling, labelling, weighing and classifying the luminous herds of the Zodiac, at large in the meadows of space. Chemistry is the intellectual laboratory explorers have constructed for counting, measuring, combining, separating and reducing to order the primal elements of material bodies.

Science does not create facts, it is only a humanly devised structure, built to house, arrange, and domesticate facts already created. Science does not make anything, it is only the shelter under which ideas of things gathered by observation, induction, deduction and inference from outlying reality are packed away according to system.

1. The value of the scientific method is incalculable. It enables man to translate the unknown around him into terms of the known, and thus make available for use and the enrichment of life whatever is found in his sublunary neighbourhood. It is true that man was forced to find his subsistence by dealing with facts, in a poor and meagre way, before he knew how to contrive a system of thought in which to store his ideas of them. Man cooked his food and warmed his hands by the fire ages before Count Rumford assumed, and by experiment demonstrated, a correct theory of heat, large enough to hold it all, and to account for it all. Since then he not only cooks by the fire and warms by it, but floats in cities over the seas by it, and flies in comfort across the continents by it.

Lightning as a fact served man long before he conceived a program, parallel with its wild and brilliant movements. Since then he uses electricity to draw his car, heat his stove, light his street, transport his message and to help him touch elbows with all mankind.

The spike-bethorned cacti plants in the Western wilds of the United States, and on the table-lands

of Mexico, doubtless served, in some poor way, the wants of man and beast before Luther Burbank discovered the secret of pulling the stickers from them. Since the prickly-pear has been subjected to treatment by the scientific method, we know how the enemy of the cattle and the curse of the desert may be turned into both food and water for man and beast, and besides, become a green and beautiful item, changing the sunburnt wilderness into a paradise of blossom, and making it possible to double the population of the globe. Science does not create facts, but by the use of the scientific method man has been able to force from the facts he faces, in land and sea and sky, a million-fold more of value than ever without it he could have obtained from them.

Stars are hard, round, bright, external facts, seen alike by the savage and savant, but astronomy is the interior sky man lifts over his reason, into which he takes the heavens, and from them, direct and near at hand, finds knowledge to sail his ship, regulate his clock, and extend his power.

Plants are living, blooming facts growing along the pathway of both the ignoramus and the scholar, but botany is the greenhouse man builds in his soul in which to reproduce the vegetable kingdom, that he may learn, at close range, its nature, and credit its boundless wealth to the account of human service.

2. Man has constructed an intellectual system into which he has gathered and classified and

unified all the facts of nature, and, in addition, all the physical, commercial, political, anthropological, and psychological facts of human nature. But the deepest and widest and richest interest of human life has, as yet, no adequate, rational and universally valid science provided for it. The territory of the spiritual area of man's life is not occupied by any theological shelter, large enough, and accommodating enough, to furnish room for the immense realities of religion. The ground belonging to this vast region is not all enclosed. Upon it stand the old structures built by the fathers and the new establishments erected by the modern thinkers. But the conceptions of religion with which the fathers packed the old houses differ from one another by the whole distance from universal salvation to infant damnation, while the ideas stored away in the new buildings are not only unlike those contained in the old, but are as far from harmony among themselves as the divine immanence, that equals pantheism, is from the divine transcendence that equals deism.

The old and the new, however, put together do not cover all the space which in the nature of things belongs to religion. The part, therefore, not taken by the quarters of the fathers, nor by the later settlements where modern thinkers keep theological house, is not occupied. This unclaimed valuable theological ground is territory we may call the religious commons. Here the Gypsies camp and tell fortunes. Here the palmists mark off from

lines of the hand the future of the ignorant. Here the juggler plays the "mango trick" and produces on the spot trees in a minute by sleight of hand. Here the faith healers get in their work, and while the patient waits, pay off accounts against health, which violations of law have been running up for years.

Since the students of the skies have utilized all the space belonging to the constellations, the astrologers have been forced to move. They now do a lucrative business on the "religious commons." Since the chemists have organized, and reduced to the system of an army, the vagrant and straggling atoms it was the custom of the adventurer in former times to hold up and search for the elixir of life, the alchemists have been compelled to vacate their old premises. They, too, have moved over on the "religious commons." As soon as any class of phenomena secures for itself a scientific dwelling place to occupy the land proper to it, then all the tramps accustomed to hang about that region are forced to clear out. Naturally they must have new soil to loiter on, and as the theological is about the only open clearing in sight, they soon find their way to the "religious commons." Labourers who employ the scientific method have been so munificently rewarded through the use of it, that they have grown to be enormously industrious and enterprising. They have laid out the city of science into streets running every whither. They have raised great sky-scraping systems that, by poetic

license, we may call blocks of buildings, into which they have gathered and arranged the merchandise of creation. The contents of these marvellous storehouses make up one harmonious whole. They vary in value and grade all the way from ideas of atoms to those of stars, and in degree all the way from conceptions of lycopods to the natural history of man, but they do not conflict, they are not antagonistic. The men who preside over the different establishments all work together. Each feels enriched by the contributions of others. They work together like the members of the body. Hands help eyes and ears help feet, and while their functions vary, their aim is one, to mutually work together so as to make the body healthy and strong and efficient.

3. The only interests of human nature unhoused up to the style of their importance in this great city of science are the religious facts of humanity. Where the theological temple should stand in the centre of the city we find the partially occupied space we call the "religious commons." Here the cranks, the charmers, the soothsayers, the Indian-doctors and the rain-makers congregate, driven from the completely settled sections of the city. Here doctors, without diplomas, communicate to men born blind the secret of seeing in a minute. Here the lame throw away their crutches, the aged their spectacles, and the dying their disease. Here the faddists amaze the multitudes and set the tongues of the initiated to pouring out wisdom, such as

Solomon in his most lucid moments never dreamed, and about which poor, aching, sin-sick humanity has had to wait throughout all the weary centuries to hear. Religion is the only subject concerning which every person exercises the privilege of private interpretation. In the absence of any universally valid science of it this is to be expected. All persons in their senses and able to count do not differ in their views of mathematics. If a bank clerk were suspected of entertaining opinions about the multiplication table not held by the directors he would be immediately asked to resign his position. There are different political parties, and there are ideas of minor importance upon which they differ, but all parties agree upon the fundamental principles of government. If a member of society is found holding and practicing opinions radically different, ethically, from such as are generally accepted, it is the custom of his neighbours to see to it that he pays for his originality by a term of service in the penitentiary. The realities of law are embodied in constitutions and statutes and for opinions here we call upon the authorities in legal knowledge. The facts with which the physician is called to deal are systematized in the science of medicine, and here no one has any right to speak except the doctor. The tailor and the shoemaker have programs of activity they have mastered for cutting out clothes and making shoes, and in their lines of work their opinions are received without question. The weather was for a

long time an open question concerning which every citizen had a sphere for the exercise of private judgment, but the government has at last organized that, and now we must take our views of the coming storm or cold or rain, not from the self-constituted prophet, but from the authoritative flag that floats from the top of the weather bureau. Religion is the only important reality left unsystematized by the scientific method. Hence the preacher labours under the disadvantage of having a competitor in every person to whom he proclaims the Gospel. The writer witnessed an illustration of this once which he will never forget. The minister had delivered a very clear and Scriptural sermon on the reign of law throughout the whole realm of nature and grace.

He had just finished his discourse and was walking down the aisle towards the door, when he was met by a large and uncommonly pious brother, who had just moved to the city, and was visiting around from place to place, sampling the various ministers in order to determine in which one of the houses of worship he would place his membership. He looked the minister squarely in the face and remarked, with an air of significance that was ominous, " My brother, I want to say to you, sir, that I do not agree with your doctrine." Of course the situation had to be faced with some word in reply. After the sermon which had filled the aisle with such a well-poised and self-satisfied opponent, any further argument seemed to the minister out of

place. So he concluded the interview by saying, "My friend, this is a free country, and on the subject of religion every solitary American is entitled to his opinion. Good-bye."

4. Our opinions of the firmament are handed down to us by the students of the skies and we take them without question and apply them to navigation. Our ideas of the primitive elements are furnished us by the chemists, and we faithfully accept them and turn them to service. Our conceptions of the earth's surface are given us by the geographers and we take them without a word of dissent. But when the theologian sends forth his message, it is accepted if the individuals, who receive it, find that it is parallel with their private opinions; if not, they reject it.

There are universally valid and accepted standards for the measurement of all lower forms of reality, but religion, the perpetual witness of humanity's kinship to the infinite, has not its rank and standing fixed by any universal consensus of judgment, but by the whims and fancies of individual opinion.

This is because all the ground relating to man's material well-being is occupied by establishments erected by the scientific method, and are filled with universally valid knowledge. But the space where the theological building should be erected after the same modern method is only partially covered, and that by houses which shelter conflicting dogmas, and not exact knowledge based on the facts of religion.

5. Is it possible to build a theological system large and comprehensive enough to contain universally valid knowledge of the realities of religion? Do we know enough about religion to construct a science in which to house it? Has man become efficient and skillful enough in the use of the scientific method to employ it in the construction of a science to shelter his religion? Are we in sight of the time when it will be possible to speak not only of the rocks of science and the plants of science, but also of the religion of science? It would be presumption amounting to unfathomable conceit for any one person to imagine that he could do more than contribute one idea towards the making of such a science. But is it not inevitable that a system will be built by means of the scientific method as universally valid for religion as botany is for plants and as geology is for rocks?

6. Is it to be supposed that the human mind after having devised systems to account for, accommodate and utilize all other facts relating to man, will leave the highest and noblest interest of him unsheltered? That the task of throwing around the subtle and intangible realities of religion a system universally valid is far greater than that involved in reducing any lower level of facts to order is admitted. But is the task impossible? If so, it must be on account of there being no religious facts to observe, or because there is no faculty in man by which religious facts, if there be any, can be apprehended. Man has been able to establish a science

for rocks, because stones are facts, and such as he has the power to comprehend and from which he can induce and deduce and infer a rational system of thought in which to store his ideas of them. Now, history is as full of religious realities as nature is of rocks. Worship and prayer and sacrifice and other religious acts are as universal as plants. Man has been seeing naiads in the streams, satyrs and fauns in the woods, and gods in the heavens and in the earth, as long as he has been seeing the waters flow, and the lightning flash, and the sun rise and set. Religion is the universal furnishment of humanity. If man has been able to systematize the phenomena of exterior nature, why not that of his own interior life? But to say that it is impossible is to say no more than leaders in state and Church and literature were saying about the possibility of reducing facts of nature to order in the seventeenth century. When it was first proposed to investigate nature, and to subject all its phenomena to scientific inquiry, the movement was regarded as instigated by the devil. The members of the Royal Society, who began their work, in what they termed experimental philosophy, in 1661, called down upon their heads ridicule and satire and invective such as have no parallel in history. Robert Boyle, the celebrated British chemist and discoverer of Boyle's law of the elasticity of the air, declared that the chief axioms as to nature in his day were that nature is exceedingly wise and all her works are performed with understanding.

"Nature does nothing in vain." "Nature never fails of her purpose." "Nature always does what is best." "Nature always acts in the shortest manner." "Nature is never too lavish, never too sparing." "Nature always preserves herself." "Nature always watches to preserve the universe." "Nature dreads a vacuum." Nature, it was thought, caused water to ascend in pumps, because she would be shocked to indescribable pain if, by any unforeseen chance, the failure of water to rise in the pump should permit a vacuum to occur. With such views of nature commonly held, it is not surprising that many of the current beliefs cherished with regard to it were absurd and ridiculous. It was thought "that a lodestone held in the hand would either cure or give great ease to the gout." It was supposed "that a diamond, which is the hardest of stones, not yielding unto emery, or anything but its own powder, is yet made soft or broken by the blood of the goat." "That there is a property in the Basil plant to propagate scorpions, and that by the smell of the plant they are bred in the brain of man." Voltaire speaks of the doctors of his day as pouring drugs of which they knew little into bodies of which they knew nothing. Montaigne speaks of the prescriptions of certain physicians in his time as consisting of the left foot of a tortoise, the liver of a mole, the blood from under the left wing of a pigeon, and rats pounded into a fine powder.

7. We can hardly believe that such opinions

of nature and such beliefs were held a little more than three hundred years ago in the most enlightened part of the world. And we can hardly understand now how it was possible for the best people of the time in all walks of life to oppose with such bitterness the work of the students who, in the interest of truth, were earnestly seeking to understand the laws of nature. Sir William Temple, the English diplomatist and author, absolutely refused to credit Harvey's demonstration of the circulation of the blood, after it had been verified by Malpighi with the microscope. He declared the doctrine to be absurd and even after it was established to sight and reason, contended that the common sense of mankind was against it, and that common sense must be satisfied, as well as reason, before it could be accepted. The great Dr. Robert South referred to members of the Royal Society in an oration before the University of Oxford by saying, "They can admire nothing except fleas, lice and themselves." Oliver Goldsmith, as Citizen of the World, writes to his friend, Fum Hoan, first president of the Ceremonial Academy of Pekin, concerning the experiments of the members of the Royal Society. "The labours of such men," he said, "instead of being calculated to amuse the public, are laid out only in diverting each other. The world becomes very little the wiser or better for knowing what is the peculiar food of an insect that is itself the food of another, which in its turn is eaten by a third, but there are men who have

studied themselves into the habit of investigating such minutiæ. To these such subjects are pleasing." Jonathan Swift ridicules those who were investigating nature by the scientific method in "Gulliver's Travels." When Gulliver was introduced into the learned academy of Lagado, he found natural philosophers busy with all kinds of projects and known as projectors. "One had been at work for eight years devising a scheme for extracting sunbeams from cucumbers, which, after hermetically sealing in vials, he proposed to pack away for use in raw, inclement summers." "Another was busy with a method for calcining ice into gunpowder, and for softening marble into pillows and pincushions." "An architect had found a most remarkable plan for building houses by beginning at the roof and working downward to the foundation."

8. But notwithstanding ridicule and violent opposition, the observers of the secrets of nature continued their experiments, until now we see their efforts, persisted in for three hundred years, crowned with the most brilliant success. Not only has their method been vindicated, but the whole civilized world has been forced to think, to a greater or less degree, in terms of their universally valid principles.

It would hardly be safe to infer, however, because of the brilliant success of the scientific method in the realms of nature, that it will meet with no opposition when employed to systematize the realities of religion.

Nature, it will be said, is common and passing and material. To invade her domain with the hard, cold methods of induction and deduction is proper. But we have seen that the civilized public did not think so three hundred years ago. We have only come to think it proper because we have seen it done and with such wonderful results. The phenomena of the human spirit, it will be thought, are on a different level entirely from those of the tangible world. There is nothing truer than this, but is it above and beyond the apprehension of reason? If so, then John Henry Newman was right in moving with all his spiritual belongings into the self-chosen prison of hard and ecclesiastically fixed dogma, and denying to his reason the right to ask questions. Had this line been pursued three hundred years ago by the members of the Royal Society in regard to nature, doctors of the present time would still be pouring drugs of which they know little into bodies of which they know nothing. For it must be remembered that nature three hundred years ago was as completely encased in conceptions fixed by dogma as the realities of religion. If reason, by transferring nature from the domain of dogma to that of science, has increased a million-fold its power to help mankind, may it not follow that religion, when transferred by the scientific method from the domain of dogma to that of science, will gain by like proportion in power to help mankind? But many will be ready to think, since they have seen it done, that taking

nature from its ancient dwelling-place in dogma to its new quarters built by the scientific method, is a much less perilous proceeding than the enterprise involved in taking religion from under its moss-covered roof of dogma and setting it up to housekeeping in a new establishment built by the scientific method. Nature is only the temporary home God has built for His children. It passes and perishes with the using. Man only depends upon it for his well-being in time. If it were taken from under his feet, he would still have left his imperishable self. It is only an island lifted up in the ocean of being to which the children of God are sent for a period of discipline. If students by the use of the scientific method should succeed in destroying the schoolhouse and in removing from sight the neck of land on which it stands, the souls of the learners would not be destroyed.

9. But religion concerns humanity not only for time, but for eternity. Its significance for man is vital, permanent, everlasting. Undermine and disintegrate that divine reality and man is left bankrupt forever. The disposition is to say, therefore, let not the cold and merciless hand of the scientific method touch that God-given asset of the human spirit. Let the scientific method find exercise for its activity in manipulating rocks and plants and insects and the beasts that perish. We see that the value of its work along these lines has been tested and accepted by experience. Taking heat from the dogma of caloric and putting it to work

from the headquarters of a new method called "A Mode of Motion," has not made fire any the less hot, but has, we know, enabled man to put it under the countless wheels of toil which turn out most of the work of modern civilization. When Copernicus transferred the heavens from the dogmatic conceptions of Ptolemy and put them to wheeling in a system parallel with the realities of them, he did not change the nature of the sun, or of the moon, or of the planets of the solar order; he simply lassoed them by the lines of his genius and penned them and arranged them in his thought after the fashion they were accustomed to observe in the skies.

We know, too, that when the atoms were brought from the dogma of alchemy into the intellectual framework of modern chemistry, not a single element was lost in the change of abodes, but on the other hand all of them, as soon as they were housed in new quarters, turned out work in the service of man. The scientific method, therefore, is all right, as long as it is applied to the phenomena of nature. But the proposition to employ the scientific method in dealing with the phenomena of religion is apt to be regarded as unnecessary, dangerous and destructive. And the situation is made all the more embarrassing because those who most resent the movement to organize by the scientific method the realities of religion are pious and devoted people. They have an understanding with themselves as deeply fixed in their thoughts as the faith in their hearts that without dogmatic

underpinning religion will have no foundation. They identify religion with dogma. In their esteem the fact and the theory of it stand or fall together. They have an idea that the banks make the stream, and not the stream the banks. They forget that religion makes dogma, and not dogma religion. They fail to recognize that doctrines of electricity do not make the weird force that duplicates sunlight in the streets. They do not see that Bible and Church and doctrines, all together, have not made religion, but that religion has made all of them. They fail to see that the foundation of religion is human nature, and that the only way to rid the world of it is to blot humanity from the face of the earth. As long as one solitary mortal breathes and fears and hopes under the sun there will be religion. This, at least, should be assuring, that whatever the scientific method can or cannot do in the spiritual realm, one thing is absolutely certain, it cannot destroy religion. But still the question will be asked, Why unwrap the dogmas the fathers have tied around religion? They have served to bring it to our day and to mediate it to our hearts, why not let them do the same for the present and future generations? In answer, it is well enough to remark that students have untied the dogmatic doctrines wrapped around all other kinds of reality, and that a scientific envelope is necessary for folding about our religion, that we may have uniformity and system in our household of knowledge.

10. Simply to enclose our religion in a thought package, similar to the ones in which we do up our swords of Orion, and our original elements of chemistry, cannot change in the slightest degree the essential nature of the spiritual fact. The mental wrapper is always to be distinguished from the thing it surrounds. The intellectual envelopes may vary and be increased a hundred or a thousand-fold in number, but the interior fact remains the same.

The Penny Cyclopedia, published in 1837, sums up and describes, under seven heads, what was known of electricity seventy-five years ago. The Encyclopædic Dictionary, published in 1894, uses three hundred and forty-five terms under which to express what was known of the subject in its various ramifications and applications eighteen years ago. Perhaps four hundred words would be necessary to set forth what is known of electricity to-day, and yet the mysterious force the human mind managed to mediate to itself by means of seven words in 1837 is precisely the same subtle something man employs nearly four hundred terms in dealing with to-day. Electricity has not changed, but so much more is known about it now than in 1837 that nearly four hundred more mental conductors are required to call it from the encompassing spaces than were in use seventy-five years ago.

If we were to compare the knowledge man had of the stars in 1837 with that he has of them to-day,

we would, perhaps, find that astronomers of the present time are as far in advance of those living seventy-five years ago as are the electricians of the present in advance of those living at that period. Prior to 1875 there was a vague feeling that the science of astronomy had reached a stage of finality, but so great have been the changes made since then that the astronomical time between 1875 and the present is actually known as the period of revolution. It was but little more than the third of a century ago when it was thought that the field for the discovery of new double stars had been worked out by the Herschels and the Struves. More than a thousand double stars have since been discovered, and now it is the conviction of students of the firmament that the work of finding new pairs has just fairly begun. It is well known that changes in the conceptions of explorers in that territory of nature represented by our word, "chemistry," have been so striking and so rapid that only the masters of the retort and the crucible have been able to keep up with them.

11. The material universe has been taken down and rebuilt within less than one hundred years. Still, the solid earth beneath our feet is the same one Adam knew in the early morning of historic time. The blazing stars revolving above our heads are the same centres of flame Abraham saw from the Chaldean plains. The sweet light coming with every blessed day to guide our steps is the same that David saw arraying in beauty the flowers on

the hills about Jerusalem. It is not the material universe outside of us, therefore, that has been taken down and rebuilt in less than one hundred years. It is our conceptions of the universe that have been scattered and reformed. The world outside of us is just like it was when God made it and called it good. It is the interior world of thought, that stood in the human mind one hundred years ago, the world inferred from outside facts, wrongly observed, mixed with inside installments of tradition and inside layers of imagination, that has been smashed and replaced by one more in line with outside reality and inside demands for unity and order, and because of this, vastly more convenient and commodious as a mental dwelling place.

12. At the International Congress of Arts and Sciences, held at the Universal Exposition in St. Louis in 1904, it was shown by masters from all parts of the world that not only the sciences dealing with nature (organic and inorganic) had found the old theories too meagre to express the new truth discovered in their separate fields, but that the sciences relating to every side of human life (law, economics, politics, jurisprudence, art, ethics, and psychology) had all alike shared in the larger world-wide intellectual movement of modern times. In all the sciences, both of matter and of mind, it was found necessary to fashion new formulas to let in the new reality discovered back of them. The old gates were too small to let through the new floods of truth. Everywhere, from atoms to stars and

from polypods to men, the new wine of science was making necessary the production of new bottles and more bottles and larger bottles than the human race had ever any use for before.

13. We know that wider knowledge of one department of nature calls for readjustment and enlarged conceptions of every other class of natural facts. A completer view of the field of botany reacts upon our conceptions of that occupied by the domain of chemistry. Larger ideas of botany and chemistry affect our theories of political economy and geology. Laplace said that Kepler could not have discovered the beautiful law associated with his name but for the speculations of the Greeks on the curves formed from the section of a cone by a plane. All the sciences are modified by the special development of any particular science. When an important discovery is made in any single department of research, this is utilized as a new angle of vision for a fresh outlook over the entire realm of knowledge. Thus it follows that our general system of scientific learning grows as a whole. And to say that it will not continue to grow forever is to assume that the time will come when the human mind will know everything. It can never, therefore, become final and fixed and static. The incoming of fresh facts from all levels of discovery and exploration will make it necessary, day by day, to fashion new single theories to account for and accommodate them. These, when formed, must be assigned to places in the general system of discov-

ered truth. But the enclosure containing our conceptions of all discovered facts to-day will not be large enough to hold them to-morrow. There will be found a new flash from the sword of Orion, or a new dip in the coal formations of China, or a new element that perpetually burns without the loss of heat, or an unclassified item from the depths of the human consciousness, or a new love of death in the patriotism of the Japanese, that will force the competent who keep the gates of knowledge to be everlastingly widening the boundaries that fence the known from the unknown.

14. Now religion needs a system formed in accordance with the scientific method to contain the laws, principles and generalizations thinkers have formed from the study of it, just as really as rocks need geology to house the ideas students have formed from the study of the stone-ribbed earth. Nature is not science, it is the subject matter of science. God creates nature, but man creates the science in which to mentally hold it. Religion is not science, it is the subject matter of science. God is the author of the religious reality at the bottom of human nature, but man must build the science which is to contain his conceptions of religious facts. Theology, if constructed in accordance with the principles of the scientific method, will become a science for religion, precisely as astronomy has become a science for the stars. There are religious facts as entirely as there are rock facts. Here is the basis of a science for re-

ligion. Religious facts, too, are in a class by themselves; they cannot be systematized in any other science than in one built for religion. Unless religious facts are observed and systematized in a theology as completely scientific as botany is, they will remain to be tossed to and fro and carried about by every crank's wind of doctrine, by the sleight of men and cunning craftiness, whereby the charmers and rain-makers lie in wait to deceive.

15. Professor Huxley wrote: "By science I understand all knowledge which rests upon evidence and reasoning of a like character to that which claims our assent to ordinary scientific propositions; and if any man is able to make good the assertion that his theology rests upon valid evidence and sound reasoning, then it appears to me that such theology must take its place as a part of science." That religious thinkers are under the absolute necessity of building a science for the spiritual realities as complete and exact as geology is for rocks must be clear to all who have been intellectually alive for the past third of a century.

The human mind cannot keep its religious knowledge in a separate compartment, completely out of touch and out of relation with its knowledges packed away in other rooms of the intellectual storehouse. It is impossible for man to possess mental peace without bringing his theological knowledge to terms with other items of knowledge he has picked up and systematized. Are we to conclude that he must be constantly enlarging the rooms in his mental abode

where he keeps his ideas of rocks and atoms and constellations and flowers and jurisprudence, but that the room built by the fathers in the sixteenth century for housing his ideas of God and human nature need no overhauling and no extension? The fathers are entitled to great honour and respect for the religious establishments they reared in their day, but to credit them with sufficient insight and enterprise to build in their time a theological chamber large enough to hold all the knowledge the human race should ever learn in all ages about the facts of God and man is to heap more glory upon them than they deserve. Those of us who live to-day know perfectly well that God and man are both just as much alive this moment as they were in the sixteenth century. Not only are they alive to-day, but they have been acting and reacting, the one upon the other, ever since the fathers formulated their theories from the study of the religious facts five hundred years ago. And we may add that the same spiritual facts the fathers considered are the ones we face. They are with us, too, under conditions political, commercial, and world-wide—totally different from such as the fathers knew. We can hardly believe that Augustine and Calvin and Arminius exhausted all the heights and depths and resources of religious facts, any more than we can believe that Ptolemy and Copernicus and Newton exhausted all the resources of astronomical facts.

16. There have been almost as many theolo-

gies in Christendom during the past nineteen hundred years as there have been generations, and these theologies came about as near to accommodating the facts of religion as the theories of nature held did to accommodating the facts with which they dealt. The dogma of caloric, as a theory of heat, is about on a par with the dogma of God found in the Westminster confession of faith. Neither the formula for heat, nor the Westminster doctrine of God can stand the test of the scientific method, because neither is in line with the facts of fire and of God. Both the facts of matter and the facts of religion were interpreted according to the best lights of the age in which they were considered. Facts of every description were interpreted from the standpoint of tradition and convention and not from that of the facts themselves.

The shape of the earth was settled by vote and not by the globe's real configuration. The realities of religion were determined by ballot and not by the fecundity of the spiritual facts. Courts of law, councils of theological doctors, assemblies of physicians and meetings of the students of nature, followed programs mapped for them by conventional authority and traditional opinion. The man who dared to change the current of ordinary beliefs relating to law or to nature or to religion generally paid for his boldness by losing his head. Sir Matthew Hale, the most celebrated Chief Justice England ever had, represented the judicial level of the time when he condemned and ordered executed

two poor women accused of witchcraft. The average intelligence of the time bearing on the subject of medicine may be known from the prescription of the doctor already given, consisting of "the left foot of a tortoise," etc.

17. The first clearing made for a road leading out and away from a civilization based on the irrational opinions of convention and tradition was cut by the students of nature. In spite of fire on earth, with which they were threatened by the authorities of the state, and flames in hell, with which they were threatened by the leaders of the Church, they continued to fell one after another the trees of traditional and dogmatic ignorance. Gradually they opened a highway. Timidly and tentatively at first the priest-ridden, state-ridden multitudes began to find their feet walking over the new road. This has continued until we see today all the civilized world travelling towards the coming noon of a great and glorious time over the highway built by the scientific method. The saints as well as the sinners have at last learned that the safest and securest and pleasantest track to follow is that lifted into view and made to gleam by the scientific method. Good, bad and indifferent, all alike, now use street-cars and the flying railway trains and the ocean palaces as conveniences of transportation. Both the avowed agnostic and the Christian missionary make their way now to the East by means of conveyance established by the scientific method. The only side of human life still

regulated by vote instead of the facts and by traditional authority instead of by the essential realities of which the authorities have taken charge, is the side of religion. Here the methods in vogue when doctors poured drugs of which they knew little into bodies of which they knew nothing still sway the mind.

18. The leaders of religious thought poured out wrath mingled with indignation upon those who employed the scientific method in dealing with the facts of nature until they were forced by the unparallelled success of it to see that hurling thunderbolts at the heads of men, who were reconstructing creation, only advertised them as being, at the same time, both absurd and ridiculous. But after they learned that they were powerless to arrest the brilliant achievements won by the use of the scientific method in matters natural, they still continued to comfort themselves with the thought that they had left the power to cut off the religious heads of any adventurers who should dare to apply the method in matters religious. So the Pope of Rome, who best represents this entire method of ruling by authority based on dogma, rather than by authority based on the nature of the facts of religion, still issues his bulls and encyclical letters. He and his sacred college of cardinals guard with sleepless vigilance the priceless treasures of religion. And they are doubtless good and earnest and self-sacrificing men, and deeply consecrated to the cause of religion. But they are victimized by the

subtle, insidious influence of a wrong method. They are profoundly convinced that they are called of heaven to protect religion from the inroads of agnosticism, atheism and nihilism. They fail to see that their authority would be infinitely greater if based upon the dynamic facts of religion rather than upon the ecclesiastical dogmas with which the spiritual facts at a particular period of history clothed themselves. They identify religion with the crude products the mind turned off in a dark age in its attempts to interpret it. They have taken the report the human mind gave of the religious facts in the infancy of Christian history, "when things were seen dimly and distortedly, through mists of ignorance and prejudice, and have made of them in all their circumstantial detail finalities, the very buttresses and grounds of salvation." They approach religious phenomena, therefore, not through the simple facts which have made Christian history, but through a bewildering reticulation of unproven assumptions and a tangled mass of metaphysical propositions. They have founded their world-wide ecclesiastical hierarchy upon the early crude products of religion rather than upon the permanent and eternally new facts of it. If the Roman Catholic Church had been guided in its marvellous history by the facts rather than by the interpretations the human mind first gave of them, it never would have been possible for the historian Lecky to say, in speaking of mediæval Catholicism, "The Church of Rome has inflicted a

greater amount of unmerited suffering than any other religion that has ever existed amongst mankind." Nor would it have been possible for the sixteenth century German theologian to say, in speaking of his contemporary members of the clerical profession: "By faith we mean not the conformity of what we say with fact, but with an opinion about divine things founded on credulity and persuasion, which seeks after profit."

19. Not one of the systems formulated by the Church in past ages to mediate the realities of religion furnish an argument with which to answer present day unbelief. All the world to-day is thinking and speaking in accordance with standards erected by the scientific method. When a skeptic in matters of faith, therefore, but one schooled in thought by the discipline of the scientific method, wanders out from some department of universally valid knowledge and finds himself over on the "religious commons," he listens to the conflicting opinions handed down by authority to the various occupants of that unprotected territory, and retires with the thought that reason in religion is impossible. He falls into the habit of regarding the whole subject as quite outside the domain of verifiable reality. If he is polite and considerate, he speaks of it, when in the presence of others, with a kind of condescending, patronizing air. He is careful to give no offense to the deluded victims of irrational opinion picked up on the "religious com-

mons," but at the bottom of his soul he cherishes for them the most profound pity.

20. The situation we confront to-day, therefore, is entirely different from that the leaders of religion faced in the time of the fathers. The man in the pew with his caloric, and his nature hating a vacuum, had no advantage over the preacher in the pulpit with his dogmatic conceptions of religion. But now the laymen, doctors, lawyers, school-teachers, college professors, and all other classes of workers in field and mine and shop have been educated to deal in the several spheres of their activity according to the principles of the scientific method, and so the minister, in order to be on equal terms with them, must have the spiritual facts with which he deals arranged and systematized after the same modern fashion. By this it is not intended to teach that he is to preach material science or political science or any science, built to house intellectual interests, other than such as bear upon religion. It is his duty to represent simply and solely the realities of religion, but he should know how to do it in terms of the scientific method. Religious facts are the primal, underlying, fundamental realities from the study of which the science for religion must be developed. God sustains the same relation to religion, as a permanent element in human life, that He does to nature. He creates nature and is the author of the spiritual fact at the bottom of man's being. But religion is not scientific theology. Spiritual facts never

change, but the interpretations of the facts change with the personal and social growth of humanity. We know, too, that the interpretation of religious facts is affected and coloured by the general knowledge of the human mind in other directions. When the facts of religion were accepted by Clement and Origen and Athanasius of Alexandria, they developed a theory of them in terms of Grecian philosophy. When the Latin fathers accepted the facts, they developed a theory of them saturated with the terms of Roman law. In the mind of the Jews the facts took on a Hebrew form of theology.

21. The glory of the Christian religion and the evidence of its universal adaptation to the wants of humanity is its capacity to live in all climates, to express itself in all languages, to sing in all notes of music, to glow in all colours of painting, to be at home in all styles of architecture, to speak through the creations of all literature, to comfort in all conditions of calamity, to triumph under all forms of government, to shine in all manifestations of kindness, to radiate from the holiness of all consecrated souls, to admonish in the judgment of all wisdom and to bless in the devotion of all love. Among the Greeks it found a home in philosophy; among the Romans it flourished in terms of law; among the Jews it clothed itself in the conceptions of the chosen people; among the Goths it lived in the purity of home life and the love of children; among the Teutons it asserted itself in the rights of private judgment; and among

the Celts its power was transmuted into the overflow of exuberant enthusiasm. The day will come when the Christian religion will balance and restrain in Chinese conservatism, and ponder the deep things of God in Hindu mysticism and amaze the nations in the enterprise of Japanese loyalty to spiritual truth.

22. To say that religion depends upon the theological establishments the fathers built for it is like saying that the sun depends for its future success upon the trees which fed upon its heat and light five hundred years ago.

The sun is thriving to-day in chrysanthemum blossoms and in Luther Burbank cacti-plants, Shasta daisies, English walnuts, Irish potatoes, plum-cots, and hundreds of other flowers and vegetables never dreamed of five hundred years ago.

When one says that a home for religion cannot be lifted up to-day as complete and beautiful as that in which the stars reside, it is evident that he has forgotten the nature of the spiritual facts, that he has mistaken the products of the fathers for the realities which, under their insight and intellectual enterprise, took the form of the products. This is like saying that the magnificent roses, which grew last year, exhausted all the power and force of the sun and soil to make roses. This is to mistake the products the sun turned out last year for the heat which made the products and which continues to roll out in solar waves to bloom in a larger output of beauty this year than ever before.

23. It is not to be supposed that in contending for a scientific establishment in which to house our conceptions of religious realities we are proposing to erect an inelastic structure to shelter not only our present ideas of spiritual facts, but also such as future generations of religious thinkers may form from the consideration of the same facts. This would be to do in our day what the fathers attempted to do for us in their day. This would forestall future spiritual enterprise, and be equivalent to the assumption that those who come after us will not have as much religious sense as we have. What we mean by a science for religion is such an intellectual construction as will enable us to store our conceptions of spiritual realities in a house equal in style to the other buildings in the city of universally valid knowledge. The religious establishments we build to-day by the rules of the scientific method we may expect to be altered and enlarged to meet the spiritual needs of coming ages. We know that the theological dwelling our fathers built for themselves and for succeeding generations does not furnish religious shelter and house room for the humanity of the twentieth century, and we can hardly expect to succeed in building better than they did. We may congratulate ourselves if we construct for our time a theological abode that will be made as much use of by all the people of the present generation as was made by all the people in their day of the house they built in the fear of God.

The limitations of man's power are such that the establishments he erects to house his conceptions either of the phenomena of nature, or of religion, can never be completed. But he must build. He cannot remain out under the heavens exposed to heat and cold and to the fury of the storms and of the wild beasts. And though he realizes that the shelters he constructs are in the very nature of things temporary, they do for a moment furnish him a roof over his head, and while pausing under it, he can renew his strength and plan how to make it more permanent and accommodating. Under this the succeeding generation can rest until new conditions in social existence and new discoveries in different levels of fact make it necessary to begin the work of reconstruction again.

24. All this to the reader accustomed to think after the fashion set for him, and in the ruts worn for him by the intellectual wheels of bygone times, will have the appearance of a dangerous departure from the safe and tried lines of ordinary thought. It will look like an attempt to undermine the foundations of authority. But instead of this such a proceeding in our intellectual methods will only tend to make authority all the more secure and significant. When authority is wielded from the throne of religious fact rather than from the dogma woven round the fact, it will be felt and accepted as the voice of God Himself. Have the institutions built by the scientific method on facts other than the religious no authority? Have

the electrical engineers no authority? Not, perhaps, from their mere untested theories, but as representing a great and world-wide physical force, they have authority as emphatic as lightning. When one of them sees a careless schoolboy approaching, without thought, a live wire fallen on the street, and when he says in tones of thunder, "Back there, boy, or you will be dead the next minute," do you suppose he speaks without authority? All the popes who ever occupied the chair of St. Peter's put together never in the realm of religion wielded by their words such authority as that engineer hurls from the standpoint of fact at the youngster within a step of death. And the authority is recognized as it rings in his ear with the imperiousness of doom. The authority the engineer exercises in speaking to the boy heedlessly walking to death is the kind, but on a level infinitely higher, that Christ wielded in the realm of religion. The people were astonished at His doctrine, for He taught them as one having authority, and not as the scribes, who taught from the traditions of the elders. Back of Him was the power of Almighty God, and the people felt what He said on spiritual things just as the boy felt what the engineer said on the level of natural force. Christ spoke from the standpoint of divine reality and fact. When Christ arraigned the scribes and Pharisees, describing them as whited sepulchres, as serpents, as a generation of vipers, filling up the measure of their fathers, and finding their destiny end in the

damnation of hell, do you suppose He spoke without authority? Not in all history was such language ever before or since used to burn up the pretense and hollow professions of a class of men.

25. Let no one ever suppose that when theology is constructed by the scientific method in harmony with spiritual fact that the Church will lose its authority. When that day comes the Church will have more authority than all other institutions on earth, as it ought to have, because, then, it will be in real fact the body of Christ, and in direct touch with all power in heaven and in earth, as Christ, the Head, is. The ministers will then be in the realm of religion what the engineers are in the realm of electricity. There will be popes and cardinals and bishops just as there are now, for the fortunes of the Church must be administered and directed, but the ecclesiastical establishments will not be meeting places in which saints may sleep and dream about heaven, but vast power houses in which the colabourers with God will meet to generate light to show lost multitudes the way to heaven.

26. The proposition to construct, by the scientific method, a new theological house for religion will be opposed on the ground that it is novel. And it is true that no well-defined united attempt has yet been made by the constituted authorities of the Church to erect a scientific dwelling-place for religion. But we have shown that only within modern times has the attempt been

made to scientifically house any other class of facts related to human life. It is in view of the necessity of putting our knowledge of religion into quarters similar to such as shelter all other human interests that the duty of constructing a science for spiritual realities is urged. There is not the slightest danger of harming or changing, by the process, the religious facts. They are eternal, and whether housed or unhoused, they will abide, as will the sun, moon and stars, with or without an astronomical dwelling-place.

A house to accommodate the facts of religion is not necessary to make the facts more real. Chemistry cannot make the atoms more real than they are and have been from the time they gathered in rings to become the foundations of the earth. But chemistry is necessary to help man appropriate for his uses the primal elements of nature, and so a scientific theology is necessary to help man get to the facts of religion, that he may use them as food for his soul. The use of scientific structures for housing all reaches of reality is that they help man to get in direct touch with the facts instead of theories of them. And so a science for religion will help us of the twentieth century to come directly into commerce with the facts the early disciples used to turn the world up side down.

27. It is in reality the facts and not their intellectual products that have been making Christian history through all the centuries of our era. The mental accretions, and metaphysical shibbo-

leths, and loud resounding ecclesiastical machinery, have often hid the facts from a dying world. If we want to know how the facts will work when given a fair and untrammelled opportunity, look at them aflame in the first century, as St. Paul kindled on his missionary journeys the first fires of modern civilization in Europe; look at them gleaming through the words of Polycarp in the second century, who just before his martyrdom, when called upon by the proconsul to secure his release by reviling Christ, replied: "Eighty and six years have I served Him, and He never did me wrong; how then can I revile my King and my Saviour?" Look at them in the third century taking form in the thrilling sentences of Origen and Clement; look at them in the fourth century as they pulsate in the exalted spirit of Athanasius, who thought himself in the majority, though all the world were against him, if God were on his side; look at them in the thirteenth century binding the sweet and hilarious and radiant life of St. Francis to Christ by the threefold cords of poverty, chastity and obedience; look at them in the eighteenth century, sending John Wesley against the storms of weather and the passions of wicked men, through all the by-ways and highways of England, to duplicate in modern times the victories of the early Christians; look at them in the beginning of the twentieth century, converting through the ministry of Dr. Thomas J. Barnardo sixty thousand infantile forms of human refuse and misery into useful citizens. It

was Christ Himself in the hearts of the early disciples, and not any theology about Him, that enabled them to put pagan civilization out of business and to lay the foundations of Christendom. Justin Martyr wrote in the second century, "For no one has shown such faith in Socrates as to die for his doctrine, but for Christ's sake, not only philosophers, but also mechanics and unlearned men have suffered death." And he writes again, "For there is not a single race of men, whether barbarians or Greeks, or whatever they may be called, nomads, or vagrants, or herdsmen living in tents, among whom prayers and giving of thanks are not offered through the name of the crucified Christ." It was not from theology in the second century that men learned how to make their compact with death, and how to conquer it through anticipation, but from the triumphant example of Christ Himself and through the power of the inflowing life of the Son of God, filling their lives and nerving their wills and thrilling their hearts and absolving them from the fear of death by fire or by any other form of fury malignity might invent.

28. When we read the history of the early Christian martyrs we cannot resist the conviction that their superb defiance of death was based on nothing less than a conscious, vital, constant relation to the Lord Jesus Christ. Lecky in his history of European morals says: "There has probably never existed upon earth a community whose members were bound to one another by a deeper or

purer affection than the Christians in the days of the persecutions." The bond of their self-sacrificing fellowship was not theology, but Christ Himself risen from the grave and triumphing again over death in their hearts. During the Valerian persecution, Dionysius, the Bishop of Alexandria, says: "Then with one impulse they all rushed upon the houses of the God-fearing and robbed and plundered them. The brethren, however, simply gave way and withdrew. Like those to whom Paul bears witness, they took the spoiling of their goods with joy." He tells of how many of his people, old and young, and of both sexes, were put to death, with every imaginable torture, and how, in the midst of all this, the plague broke out in the city, while the pagan population in their panic left their sick untended and the dead unburied, the Christians remained tenderly nursing both friends and foes; how their own people died in triumph, while those who remained rejoiced deeply in the peace of Christ. It was not the theology of the early Christians that enraged Julian, the apostate emperor, it was their self-sacrificing lives. Had they been contented to spend their time in hair-splitting theological disputes, he never would have thought to displace the Christian religion and put in its place the ancient pagan religion. It was the lives of the Christians that called forth from the emperor that indignant cry: "For it is a scandal that the Galileans should support the destitute not only of their own religion, but of ours."

At this period in Christian history the great theological systems of later centuries had not been built. It was not any theory of religion, or system of thought about spiritual facts that was creating the emotions and affections in the souls of the people,—that was arousing the energies and producing the unparallelled moral reclamations of which the Bishop of Alexandria gives us the record. It was a religious force as real as the electricity that draws the street-car.

29. The thing that came into John Wesley's consciousness in 1738, as he sat in the Aldersgate Street Church, strangely warming his heart, was not a syllogism, but the same spiritual force the Christians felt warming their hearts in the early days of the Church. It was no subtle process of intellectual logic chopping that produced the moral and spiritual conditions that followed the evangelical revival of the eighteenth century. It was nothing less than the transforming dynamic of religious force that revolutionized the entire sum of English life under the preaching of John Wesley and his helpers. Wesley unconsciously practiced the scientific method; he broke with convention and custom and relied directly for his success upon the facts of religion. John Wesley's journal is a record of religious achievement only made possible by the practice of the scientific method. It was not conventional theology that opened the fountains of spiritual life in the hearts of the savage Kingswood colliers as they listened to the Gospel. It

was force straight from the warm love of God that thawed their frozen souls and surprised their black, soot-covered faces with the first tears of penitence that ever washed gutters down their cheeks. It was not theological propositions that turned the soul of the Yorkshire stonemason, John Nelson, from a rendezvous of evil thoughts into a centre of holy music from which hymns of triumph went ringing through the dungeon where for conscience' sake he was imprisoned, but the infiltration of the melody of heaven into the depths of his being. It was not a reticulation of metaphysical theories about religion that kindled seraphic fire in the exquisite spirit of Fletcher of Madeley, but coals direct from the altar of God. It was not dogmas about the spiritual facts that created the movement in England during the eighteenth century, which so profoundly affected national character and prepared the way for political stability and for commercial and literary development; it was the tremendous impact of divine force mediated through the pioneers of the new time straight from God against the life of the British people.

30. If by the spiritual facts, then, the work of renewing life and affecting national character has been accomplished all along, why have any theology at all? Because the facts need a language through which to utter themselves. A theology fashioned after the principles of the scientific method is never in the way of the facts. It never arrests their force or absorbs their power. It serves

them precisely as chemistry serves the atomic facts, and as astronomy serves the celestial facts. Such a theology hangs lightly about the facts ready to be thrown off as soon as larger insight into the force of the realities makes a more comprehensive theory necessary. The emphasis is kept upon the facts and not upon their theological products, just as the emphasis of the boy is kept upon the chestnuts and not upon the burrs that grow around them. The preachers of the first centuries of the Church extemporized a kind of theology by means of which to handle religious facts, but it was so brimful of the radiating reality that the outside mental medium can hardly be detected from the inside living truth mediated. John Wesley forged a theology to let through the religious force that came boiling from his soul, but it was not the theology that changed the besotted Kingswood colliers and the brutish Cornish wreckers into devoted Christians—it was divine power; the theology only served as a conductor from the downfalling love of Calvary to the hearts of the sinners.

It is not the trolley wires that run out from Niagara that turn the machinery in the neighbourhood of the great Falls; they are only the channels through which the force of the river flows out to work for man. John Wesley used his theology as an electrical engineer uses his text-book, as a means of getting hold of divine force. His theology mediated the force of the facts and not the opinions of the great councils. He accepted as true, doubt-

less, much that was said in the great councils. But he was a heroic preacher and he claimed for himself the right of taking facts direct from their sources rather than from by way of the conventions. Because of this Wesley was the first scientific preacher of modern times.

31. But we are living in an intellectual world entirely different from that in which Wesley did his thinking. The thought world of our time has been created by the scientific method. It is an imperious law of the scientific method that nothing can live by sufferance. Everything is now called upon to show cause for existence. In John Wesley's day opposition to religion was not based upon serious intellectual grounds ; it was due more or less to conditions of life, made sordid and coarse by self-indulgence. The ridicule heaped upon it by the higher classes of English society was light and shallow. Horace Walpole and Henry Fielding and William Hogarth and Samuel Richardson and David Garrick and Colley Cibber were not of sufficient force to call forth the slightest attention from Wesley and those engaged with him in spreading Scriptural holiness throughout the world. Leaders of scientific thought, like Darwin and Spencer and Huxley and Tyndall and their successors, constitute a class of thinkers entirely different from any who ever before in all history levelled the force of their thought at the validity of religion, and the right of it to direct the fortunes of human life.

They have traced the origin of religion to sources

which make a science for it impossible. Mr. Spencer and Professor Huxley taught that religion owes its existence to ghosts seen in the dreams of savages. Others see in magic and necromancy and superstition the origin of religion. They make of it a disease instead of a legitimate product of the human spirit. They make of it no wholesome reality flowing out from the fundamental relations of finite man to the infinite God, but an abnormal secretion of the human brain to be thrown off at a higher stage of culture and mental health. No science for religion is possible, if the final facts of it are nothing more real than ghosts and magic and necromancy, no more than is possible a science of the man in the moon, who is there only by fancy and distorted imagination. Ghost-facts, magic-facts and necromancy-facts are like the fox-fire and will-o'-the-wisp lights that glow in the swamps at night; they can no more be housed in a science than could the sunbeams extracted from cucumbers by Gulliver's learned men in the academy of Lagado.

32. If our religious facts cannot be housed in an intellectual structure, built after the fashion of the scientific method, then they are no more real than the flowers in the moon no one ever saw bloom. The time has come to take stock of humanity's spiritual assets—to test the value of religious facts. Aqua-fortis does not destroy gold; it only enables us to determine if the article we have taken for it is the genuine metal. That there are religious facts

is universally conceded ; the application to them of the scientific method will show whether the light they emit is from fox-fire, or from the reality of Him who lighteth every man that cometh into the world. If religion is only a baseless sentiment thrown up from the emotions under the stress and storm of pain and disappointment, and no more tangible than the rainbow coming to view only when the cloud is sad enough to weep against the glory of the light, the human procession from the cradle to the grave ought to know it. The question, therefore, that calls for an answer to-day is, Must religion in the future exist by the sufferance of those who live in the lordly mansions built by the scientific method, or by right of verifiable, demonstrable, universally valid knowledge, based on facts as capable of becoming the foundations of a scientific structure as any in the universe ?

A theological edifice built in accordance with the scientific method, large enough to cover all that portion of ground called " The Religious Commons," is the demand of the present age. Under this structure we can house and rearrange all our religious doctrines, but keeping our theoretical separated from our practical truth. The teachers of religion have as many doctrines they can verify in experience and objectify in every-day life, as the students of physical science have of theories they can prove to be workable in practical affairs. Christian civilization has been created by the dynamics and not by the theoretics of the Gospel. As

in the first centuries of Christian history, the Church to-day is being thrown back upon experience as the source of the spiritual life. The final test of Christianity, as the religion of science, is the experience of those who amid all the trials and temptations of life have tried it and objectified it in character, so the final test of any particular physical science is the experience of those who have tried it and objectified it in the work of practical life. Scientific religious knowledge is secured on precisely the same lines we follow to obtain verifiable knowledge of the material world.

I
What is Science?

I

WHAT IS SCIENCE?

THE passing of a world of fact through the machinery of experience into a world of thought is the most wonderful movement ever contemplated. The process visualized and magnified would make an amazing exhibition. A continuous all-day and all-night performance is maintained behind the curtains of every personality. The steam-played pianos, the cages of wild animals, the calico horses, the laughing clowns, the rollicking monkeys of a modern circus make, altogether, a strikingly picturesque spectacle on the streets of a great city. But the passing of such a show is dull and commonplace in comparison with the marvellous procession perpetually moving through the highway of every human soul. All conceivable kinds of objects from every whither come up against the gateway of the human spirit, and there, as if by magic, are changed, in a twinkling, into ideas. A boy, watching the circus parade from a lamp-post, regards the striped tigers and the huge elephants and the long-necked giraffes as the interesting items of the glittering stretch of gayety passing before him, but the genuine wonder of that situation is the delicate mental wheelwork by means of which the youngster transfers the whole wondrous mile of

colour and life from the street to his thought to take home with him. The interior, psychological exchange, where values in terms of matter are cashed in terms of mind, is the most interesting thing under heaven.

1. The fall of a body of water at Niagara through the dynamo into the dazzling fire of electricity is a brilliant spectacle, but it is easily understood, for the electrical power is but another form of that liberated by the downward plunge of the river. The dynamo does nothing more than domesticate the wild might of a huge cataract, converting it into a beautiful servant without changing its nature or adding to its rank. The ideas turned into the mind from the wheelwork of experience, however, have no homogeneous equivalents in the elements from which they are manufactured. The difference in rank between a thought and a thing is infinite. And yet while a thing has no equivalent in a thought, as has heat in mechanical motion, still things are used as means through which to convey thought. The letters of the alphabet are things, but Milton used them to make known the imagery which took form in "Paradise Lost." He bound together the elements of language as if they were little transports and used them to ship his mental merchandise to the shores of common intelligence. Pigments are things, but Vereschagin used them to show the most ghastly war pictures ever put on canvas. Notes are things, but Beethoven used them to send out symphonies which

will cheer the heart forever. Chisels and mallets are things, but Michael Angelo used them to bring from marble his conception of Moses.

2. Between the mind of God and the mind of man there is a universe of things, which the Author of creation uses to express thought and volition. Kepler, while looking into the stars, said he was reading after Him the thoughts of God. Copernicus regarded his great discovery as a new vision of the Creator. It is remarkable that Shakespeare was able to reveal to us the immense orb of a world that turned in his genius with no other instruments to serve him than such as he was able to find in twenty-six symbols. By means so simple, he made it possible for those who love to travel to make pilgrimages to the wondrous globe that came up out of his being like a sun from the sea. By means so simple, he disclosed a new planet endlessly attractive, and ever since it rolled into sight, multitudes have been traversing its continents, climbing its mountains, exploring its caverns, sailing its oceans and dreaming under its skies. They have been instructed by association with its interesting people. Here they have seen human nature loving and hating, failing and succeeding, rising to heaven and falling to hell, from the interior side of life. They meet with Julius Cæsar, not as he outwardly was, when at the head of the Roman army, in the wars he describes, but as in his own soul he really was to himself. They meet Henry VIII, not as English history represents him, but as he was when

the lights were out and the actual self of the king stood face to face with his thoughts and deeds. But we know very well we could never meet the "Two Gentlemen of Verona," "The Merchant of Venice," "Julius Cæsar" and "Henry VIII," in Shakespeare's world had he not created them and put them in. Not in all the cycles of eternity could particles of paint possibly get arranged into Vereschagin's "Frozen Sentinel in the Snow-Shrouded Shipka Pass" without the directive mind of the artist. It is impossible to believe that notes from all thundering seas, or moaning forests, or howling hurricanes could ever get into the music of the Ninth Symphony without Beethoven to put them in.

3. Science is the term used to define the real world around us, after the thought in it has been transferred through the process of experience into the ideal world within us. Astronomy is our inside name for the firmament after "that awful city of God, made up of the starry hosts" has been correctly reproduced, item by item, within the mind. The heavens in Leverrier's thought so completely corresponded with the celestial order above him that he was able to assume the existence of a planet like Neptune from the perturbations of Uranus, and actually discover it, as it turned in the depths of his soul, before it had ever been seen in the skies. He saw it first within, and then told others where to look for it and find it without.

Chemistry, at the opposite side of the universe from astronomy, is our inside name for the details

of creation, after the different kinds of particles have been reproduced in thought. The constituent elements of bodies were so entirely understood by Sir William Ramsay that he discovered argon within before it had ever been detected in the atmosphere. The slight difference he observed in the density of nitrogen as prepared from ammonia, and as extracted from the air, led him to assume the existence of some such new element. Having found it within, he told others where and how to find it without.

Zoölogy is our mental name for the animal kingdom, after the structure, functions and classifications of living things have been correctly represented within. The naturalist, Cuvier, had the whole order of life so accurately established in his understanding that, it is said, he was able to reconstruct an animal of a bygone time with no other datum to start with than its fossil tooth. Through a bone from its jaw he saw within the whole form of the animal, as it had lived in its day without.

4. While the mental world we call science accords with the outside world we call reality, it is not to be supposed that one is a copy of the other, as a photograph made by the camera is a picture of the person who sits before it. The world of science is built by the intelligence out of the feelings produced within us by the action of the outside world upon our senses, but one is no more a copy of the other than is Egyptology a copy of curiously

wrought hieroglyphics. What the explorer gets from deciphering the language of the Egyptians is not a copy of their letters, but a knowledge of the thought they put into them. Things outside act upon our senses and produce feelings within us. These constitute the raw material out of which the intelligence builds science. But science is a body of thought and not a storehouse of photographs. What we get from the observation and study of nature is ideas, and not pictures of their costumes. Different objects have the power of producing different feelings, as of the sense of taste, smell and sight, but the ideas the mind gets by reaction upon the feelings are not photographs of the objects that produce them. A page of German poetry, when brought before the eye, produces the feeling of sight, but when the reason reacts upon and transforms this feeling, it is not into conformity with orderly arranged words, but into conformity with the thought Goethe put into them. Science is that part of truth man has been able to translate from the truth of the infinite mind. Since by patient observation and painstaking experiment man has found it, it is not out of place to call it his truth, but as embodied in the elements God has used to build the cosmos, it is His truth. The truth of science, then, is both man's truth and God's truth. The prevalent opinion that we get copies of the outside facts and forces of nature, when we study them, has been the source of unending mental trouble. This is a surface view and leads to materi-

alism and agnosticism. In order to know the truth, it is necessary to look back of the facts and the pictures of them to the thought they contain and were intended to convey. There is but one system of truth, and that is infinite, lying altogether in God's mind, and partly, in so far as man has learned it, in the human mind. The part turned into the human mind through experience is called science, just as the part of land, once under water, the Dutch have won from the sea is called Holland. The part of truth outside of the human mind is contained in the shoreless ocean of intelligible reality, where it stretches on to infinity under the waves in which the divine mind has embodied it. The continent of science won by man from the illimitable depths of boundless truth is limited, but it can be enlarged forever by the application of the same means used to make it as extensive as it is. The whole of reality is rational, and, therefore, open territory for the perpetual progress and conquest of science. Science stands for the known as distinguished from the unknown.

5. In the beginning of man's career on the planet, the domain of the unknown was as wide as creation. But he began to push out his senses against the facts lying in the unexplored regions around him, and found to his surprise that things answered back. A process of action and reaction began between him and the encompassing unknown. Something outside and other than himself was evidently seeking to get into relation with him.

Particles of all conceivable kinds tapped the tip ends of his nerves, arranged like so many door-bells in the senses of touch, taste, sound, smell and sight, trying to get inside. When received within the dwelling-place of the human spirit, they turned out to be ideas. So swarms of little messengers continued to come up against the doors of the soul from the mysterious realms without, bearing ideas to the mind within. A light wave brought the idea of colour, a heat wave the idea of warmth, a vibration of the atmosphere the idea of sound. The ideas were not only received, they were gradually organized into knowledge, vague and uncertain at first, but tested and verified by further reference to the original activities which made it possible, until it was clear and sure enough to act upon. By action its significance and value, as being a true transcript of ideas contained in the surrounding reality, was demonstrated. In this way began the translation of things into thoughts, of outside reality into inside science. The process has continued for ages, and though the realm of science is by no means commensurate with that of reality, and never can be, still man has an estate of certain knowledge, somewhat up to the style of his faculties. He knows that the Holland of science may be widened as long as the billows of unsailed truth rise and fall before him.

6. Outside, intelligible reality is both the experience and a revelation of God, while science is both the experience and a revelation of man, who,

made in the image of God, reacts upon divine experience and revelation and converts them into certain knowledge. Science is to the finite mind with its limited powers what omniscience is to the infinite mind. "Man," declares Job, "cannot find out the Almighty to perfection." "We know in part," says Paul. But the little knowledge man can grasp with his limited faculties is valid and entirely reliable. Science is to the all of knowledge in the mind of God as an incandescent electric lamp to the light of an infinite sun. If God did not know all things, man, His child, could not know anything. Omniscience is the pledge of the unity and the certainty and the permanence and the everlasting increase of science. Omniscience is the immediate contemplation of an infinite person, and science is the mediate interpretation of this as a message from the eternal mind to human intelligence. Science is the attempt on the part of man to kindle a little light in his thought, similar, as far as it goes, to the light of God's thought, which illuminates everything. Science is to omniscience as a drop of water to all the oceans, but in a drop may be read the meaning of every sea. Science is to the knowable as music is to all sound, the part of it picked out and placed in order in the human mind. Science is to infinite truth what Michael Angelo's Moses is to all marble, the part of it man has put into form. Science is to the eternally and endlessly intelligible what Murillo's "Abraham and the Angels" is to all colour, a part of it gathered into order by the

human imagination. Man is either a child of God, or a product of purposeless atoms. If he is a child of God, it is not strange that he should be able to read after Him his Father's thoughts. If he is a product of blind atoms, the final thing thrown upon the shores of solid matter, who, as soon as he lands, takes charge of things to command them and to improve them and to reproduce them in his own thought, then we have a little god coming at the end of a process without any great God to initiate and direct it. Then we have the "Two Gentlemen of Verona" coming at the end of marvellous and intricate combinations of the alphabet without any Shakespeare to put them in. It is easier to believe that Shakespeare created "The Merry Wives of Windsor" than to deny his existence and then account for the women without him. Intelligent belief moves in the direction of least resistance, and the difficulties in accounting for the whole of things, and of man, who comes as the definition and interpretation of them, without a personal, intelligent Creator, are insuperable.

7. At an earlier stage of human culture, science was regarded with suspicion. It was feared that, if men found out too much about how things were made and managed, no room would be left for faith. It was thought that when a square inch of space, or soil, or of water, or of life was analyzed and understood, God was ruled out of it. Providence was recognized as operating in the dark, but not in the light; in the unknown, but not in the

known; in disease, but not in health; in railway collisions, but not in the train that reached the station; in steamboat explosions, but not in the ship that made the port; in the drouth that blighted the crops, but not in the seasons that made them grow; in the electricity that struck the house, but not in the lightning that cleared the atmosphere; in the miracle that healed in an instant, but not in the exercise that brought health back by slow degrees. As long as the ground was vibrating in response to the pulse beats of an earthquake, it was felt that God was using the earth's foundations as so many notes to bring out the music of indignation and death. As long as the trees were rising up out of the soil to be embraced in the arms of the cyclone for a mad and awful dance, men felt that God was permitting the devil a season of sport among the powers of the air. When science came explaining difficulties, clearing up problems, rebuking disease, holding up death, analyzing earthquakes, mapping the paths of cyclones and showing the use of microbes, it appeared to a certain class of minds that little margin was to be left for the kind of faith that demands an impossibility in front of it to make it simple and complete.

But is it true that faith must fall as knowledge rises, that the creed must be shortened as science widens, and that our belief in God is in proportion to our ignorance of His methods of action? If so, then for the time to come religion will have no place in the lives of intelligent people. But it is

not true that God, who made the universe and guides it, can be trusted by His children only so long as they remain ignorant of how He runs it. It is not true that faith in the Almighty must be given up as soon as we learn what His habits are. "Faith is the substance of things hoped for, the evidence of things not seen," and science, in making clear the divine procedure in creation, instead of destroying faith, is compelling it.

8. The failure to recognize God at work in His immeasurable plantation has been due to false notions concerning the so-called laws of nature. These, like the overseers the Southern planters employed to manage their slaves before the Civil War, were supposed to look after things, while the master, for the most part, was off on a vacation, but appearing now and then on the scene of activity to order the overseers off the ground and to take hold of matters direct. After a few extraordinary performances, sufficiently amazing to arouse the most vivid sense of his presence, he would call back his agents and retire again to some place of rest. In some such fashion God was supposed to run His world. When He was not directly present performing wonders, the laws of nature, second causes, and other subordinate agencies had matters in charge. Now the laws of nature, as active agents for doing things in the absence of God, have about had their day. A deeper insight into the relation of God to His world shows that He never needed them and never used them.

"Among so many, can He care?
Can special love be everywhere?
From the great spaces, vague and dim,
May one small household gather Him?
I asked: my soul bethought of this;
In just that very place of His
Where He hath put and keepeth you,
God hath no other thing to do."

9. By the very constitution of our minds we are forced to believe that every event has a cause, that every movement, from the rotation of an atom to the revolution of a sun, has a cause. And while it often happens that we are unable to fix our minds upon the exact cause of this or that occurrence, yet without exception all men who think at all believe that whatever takes place has a cause. The mental necessity of regarding every sort of activity as having a cause has doubtless had something to do with the general notion that the laws of nature are causes. Something was constantly happening, or taking place, and it required no mental effort to drop into the easy habit of thinking that little laws were causing things to act as they did. The overseers were so much in evidence that the workers on the plantation forgot that there was any master at all, and even if there was, he kept at such a distance from the field that he did not count for much. Taking it for granted that the laws of nature were causative agents, and seeing their number constantly increased by the observations and experiments of students, it is easy to understand the fear felt by so many that science was about to

rule the one God out of the cosmos, and set up in His place a multitude of little gods, called laws. But the laws of nature are neither forces nor causes nor agents; they are the uniform habits of the Almighty, who holds everything in the grasp of His will.

10. Here is a peach hanging from the limb of a tree. It is not there without a cause. The tree that bore it has its law of growth, but this did not make the tree grow. The peach has its law of progress from blossom to fruit, but this did not turn a flower into a red globe of delicious juice. The peach is the idea of sweetness incarnate. Towards such an expression of itself there is not an atom in the tree that does not conspire with all the other atoms in it to move. The lines of least resistance must all be determined and adjusted in relation to the idea of the tree, of the root, of the branches, of the leaves, of the bud and of the fruit; each molecule in the tree must be specially determined to advance towards a peach. The plan in accordance with which the tree grows is definite, and the idea towards which it moves is not that of a gourd, but that of a peach. If fruit, by any sort of poetic license, could be called music, then it would be proper to say that peaches are the songs all the molecules in the tree seemed bent on singing. The conclusion is that no peach could ever hang from the limb of a tree were it not sent there through the atoms from the mind of the Creator, as the Psalms could never gladden the hearts of

saints if they were not sent to them from the soul of David.

John Fiske says: "Once really admit the conception of an ever-present God, without whom not a sparrow falls to the ground, and it becomes self-evident that the law of gravitation is but the expression of a particular mode of divine action. And what is true of one law is true of all laws."

11. In a limited and human way, cause may be represented as the influx of a man's mental volitions into his bodily acts, and as we are able to study the ocean in a drop of water, and the sun in an electric spark, so from this minute bit of cause in man we may get some idea of it in its unlimited sense. Cause in God is the exercise of His will in producing and guiding the whole sum of things, together with every particle of matter and force in it. "Bodies attract one another in proportion to their mass and inversely as the squares of their distance." This is called a law of nature, but it is in reality, Professor Huxley says, "A statement of the manner in which experience shows that bodies, which are free to move, do, in fact, move towards one another." Now when the sparrow falls, the earth rises. What the sparrow lacks in mass of body, it makes up in the speed with which it descends. And what the earth lacks in the rapidity with which it rises to meet the bird, it makes up in mass. A definition of the law of gravitation is nothing but a concise description of the uniform way the will of the great First Cause has of pulling

together the masses of things which are free to move. A sparrow falling to the ground furnishes us with a concrete and direct expression of the will of God.

But the work of the Almighty is not recognized in the process, because we have fallen into the false notion of supposing that He delegates the function of pulling bodies together to one of His agents, which in this instance we call the law of gravitation. If God is omniscient, if His eyes run to and fro throughout the whole earth every instant, what use are we to suppose He has for so many little agents to manage His interests? He certainly did not delegate the function of making things at the start to laws, because this would be equal to saying that laws made all that is, and God would be ruled out altogether. Some might suppose it hardly in keeping with the majesty of the Infinite to regard Him as concerning Himself about the small details of creation. But He did concern Himself in the beginning to make them and put them to work. If He did not make them, He made a law for every atom and molecule of them, and delegated these little laws to create things. It is more in keeping with the majesty of the Holy One who inhabiteth eternity to make all the things of creation and then govern them according to His will, than to make all the little laws necessary in order to get all the little things made, and then turn all the little things over to the management of the little laws, without His active agency at all.

The verbal devices to which writers have resorted to save God from the labour involved in running His world direct are remarkable. When we think, however, of the Supreme Being as immanent in the world, not as an idle onlooker with little laws doing His work, but as eternally active Himself through the use He makes of elements and forces, we get a conception of Him unspeakably great, and besides, very full of comfort to the religious soul. And this view of the Almighty science has not only made possible, but has made a necessity of thought.

Lord Kelvin, one of the foremost men of science in the world, declared, "I cannot say that, with regard to the origin of life, science neither affirms nor denies creative power. Science positively affirms creating and directive power, which she compels us to accept as an article of belief." There is no alternative now between atheism, blank, absurd, impotent and impossible, and belief in a personal God, who in the beginning created the heavens and the earth, and by the constant exercise of His will keeps them created and moving perpetually towards the consummation of His purpose.

Browning expresses it:

> "All changes at His instantaneous will,
> Not by the operation of a law,
> Whose Maker is elsewhere at work."

12. Look out in the world and see what is going on in every cubic inch of atmosphere. Without stirring a step, all the chemists alive might find

enough in a small bit of air to engage their attention for a generation. See flaming suns and innumerable bright worlds yonder sweeping round vast circles of space. Remember that the very earth beneath our feet is made up of particles, every one of which, like every star above, is impelled to ceaseless activity. Think of the measureless armies of molecules, which are bombarding us incessantly. Everywhere in the air we breathe, in the water we drink, in the fire we warm by, in the food we eat, in the clothes we wear, there is a perfect storm of little points too fine to see and too rapid to hear. Upon what strange shores do we find ourselves cast, if all the shot and shell of the elements are under the control of no great Being, who is using them to express His will? Life is a dream, an organized delirium, spent amid scenery made up of furiously active little letters, if no master mind is holding them and using them to write some great literature. Just think, or at least try to think, that the particles of one of the elements of water at the freezing point move, according to the chemist, at seventy miles a minute, and must suffer 17,700,000,000 collisions in a second. Consider that in the air the number of collisions between the particles in a second is about 8,900,000,000, and that the average velocity is something like eighteen miles a minute. Remember that in one cubic inch of breath there are estimated to be three hundred quintillions of particles, and every one of them is under the necessity of changing its direction in the neigh-

bourhood of 8,900,000,000 times a second. Keep in mind the thought that all these atoms, in the language of Sir John Herschel, act like "manufactured articles." That each one is perfect after its kind. That there are about eighty different sorts of them. That they vary in size, shape, affinity and weight. That all are kept in measured and exact order. That not one ever loses itself, or forgets on any occasion to be other than itself. That each maintains the character with which it started upon its career millions of years ago through all the clash and rush of movement to which it is subjected. Now, when we take a mere glance at the outer edges of the points, or force-centres, which like so much movable type are packed in perfect order around us, can we escape the conclusion that they are being used to spell out some meaning of unspeakable import? Haydn gave his immortal oratorio, "Creation," through a few notes of the musical scale, and Raphael reproduced his vision of "The Transfiguration" through a few pinches of colouring matter mixed with ether waves. But with symbols piled to the sun, and on and on, world without end, and with billions of them in every square inch of the measureless way, and each symbol the costume of an idea, what music, what visions, what systems of truth must the Lord of all be striving to give to those who have ears to hear and eyes to see and souls to feel!

The bitter controversy over evolution and natural selection is already out of date. But the great

truth turned into the thought of the present generation, that things, since the beginning, have steadily moved up from lower to higher expressions of themselves, will never pass away. This is the conception that forces belief to-day in the creative, directive power of God. It is simply impossible to believe that atoms, which together form matter, and their activities, which together make up motion, have, by gradual stages, accidentally gathered themselves into the perfection of the universe. Let us suppose, for the time being, that those who try to account for the cosmos without a Supreme Being are right.

13. Let us suppose that about 100,000,000 years ago, more or less, something like eighty different kinds of little particles started out to build a planet, like the one upon which we are permitted, for a few years, to make our home. See how the atoms went about their work. They began with the foundation, and underset the earth with a solid rock bottom. This was not only for underpinning, but was also to constitute the cellar and first floor of the structure. After this follow nine other stories, each of which required millions of years to complete. They are so clearly defined and distinct, the one from the other, that geologists have pointed them out. Their names are technical, but as every intelligent man ought to be acquainted with the different departments of his own dwelling-place, it is well enough to call them off. They are, after the Algonkian, or lowest story, the Cam-

brian, the Silurian, the Devonian, the Carboniferous, the Jura-trias, the Cretaceous, the Eocene, the Neocene, and the Pleistocene, the recent, or the topmost. The atoms built each story of the terrestrial mansion finer than the one below it. They gave strict attention to details, but at the same time made the whole edifice conform to one general plan. While there were eighty different classes of workers, each atom in any one class laboured exactly after the fashion followed by the other atoms of its kind. Though one might be at work on the bottom side of the world and the other busy at the top side, and though the two may never have been nearer together than is one end of the earth to the other, still the two managed to perform the same task in the same way and in the same time.

14. Every atom of all the eighty moved at an unmentionable rate of activity in the performance of its task, and was accustomed to strike other atoms in its way billions of times every second, but working altogether and colliding as they did, they managed to finish up a ten-story mansion, marvellously convenient and beautiful. They not only lifted to completion the edifice as a whole, but they also furnished every story of it in a most wonderful way. They made each part conform to every other part, and each floor had reference to the next one above, and all to the topmost and most perfect of the ten. After the finishing touches were put on, the atoms determined to dele-

gate a part of their number to take living form in an order of being capable of appreciating what they had done. The enormous animals they had turned out in the primal times, and those set a-going in later years, did not measure up to the style of round ball they had wound off. So a part of the atoms went into partnership with life, and began to breathe in a human being. They repealed the chemical laws under which they had lived in an unorganized state, and enacted new ones suitable to an advanced order of existence. The first man was very crude, not much above the grade of the monkey. But the outside atoms were not satisfied with the savage they saw the inside atoms had assumed, and so they began to beat and pelt them with such merciless fury that the organized elements began specializing a few new features with a view to moving up to the barbarian table-land. But they had no sooner become domesticated than the hurtling balls from the surrounding regions began to strike them with more emphasis than they had felt below. It became apparent to the particles rushing around in the brain of the barbarian that they must move again, or be doomed to death by molecular hail from the outlying territory of the exterior elements. The question of survival became too pressing to ignore. The barbaric atoms, therefore, began to work the principle of specialization again and to adapt themselves to the wide-stretching plains of civilization.

15. After the atoms got fairly down to busi-

ness in the civilized man, a most amazing thing occurred. Up to that stage the inside atoms had, for the most part, lived in harmony, finding plenty of exercise for their powers in making a united fight against the contending elements outside. Now, however, interior differences of the most serious nature divided the organized atoms into opposing armies. The civilized man found a war raging within the confines of his own personality, more evenly drawn and deadly than any in which he had ever engaged with foes outside. The beginning of the feud arose when the soldiers of one army entered a general strike against climbing any higher up the ascending way, seemingly projected for all to follow. In opposition to those who wanted to turn back and start downward, there was a part of the forces who would listen to nothing except marching forward and steadily upward. The conflict between the downward and the upward battalions was hand to hand, face to face and with no quarter shown by either side to the other. Another remarkable fact manifested itself now. The elements outside seemed to favour the organized elements inside inclined to move upward. Just as in far distant past ages they had killed off the murderous dragons that were threatening to annihilate every living thing, so now they were disposed to help in the struggle the weaker, but sweeter and nobler atoms, fighting to go up in the civilized man. It became harder and harder for the molecules which triumphed in individuals like Rameses II, Nero, Attila

and Tamerlane to make their way. The general order of the day throughout all atomic infinity seemed to be that the fair and amiable and just and kind atoms in the civilized biped should conquer the base and mean and vile ones. There appeared to be a deep-seated prejudice in the molecular heavens against the hell-bent atoms in man. The same general enmity was seen in earlier ages when the monsters made up mainly of teeth and claws were killed off, and when venomous birds and deadly plants were withdrawn from the field of action. Because of this tendency on the part of atoms generally to help the ones which pull skyward in man, the race has been constantly rising towards purer conduct, nobler ideals, finer living. Spiritual elements have superseded the natural. The savage has been forced to give place to the philanthropist. The horizon of the selfish, measured by the curl of his chimney smoke, has been infinitely distanced by the sky line of the saint.

16. On the supposition that particles of matter, assisted by force, spun the globe like so many little spiders out of their entrails, and then left it a round, opaque web, wheeling in the heavens, we are ready to write a new creed. A realm for faith confronts us now such as mortals never faced before. The atoms not only built the world, but they supplied it with raw material varied enough and in quantities sufficient to supply the wants of all coming generations of living things. They put in coal enough to insure perpetual summer at the top of

the temporary abode they built for all who shall ever need it. They mixed the soil for future crops. They stored up marble in anticipation of architects like Phidias and temples like the Parthenon. They packed away plenty of iron for razors and anvils and steam engines. They counted out and laid up gold enough to make the foundations of commerce secure. They piled up silver for spoons and tea sets and pocket chains. They were not averse to things artistic and fine, so they arranged clays for colouring matter, so mixed as to synchronize with the pulsations of light. They endowed all things with certain qualities of sound to be utilized by those inclined to music. They anticipated all wants from those the stomach should feel to those demanded by the imagination.

All this the elements did without any suggestion from outside pressure. They had no order from any power exterior to, or other than themselves. The thought they worked out inhered in their own little points of activity. The work they performed was of their own conception and the program they followed was of their own sketching. Each was self-included and self-contained and independent, but by common consent all acted to fulfill a single purpose, self-generated and self-imposed and self-consummated.

17. Thus we see what we are to accept when God is dethroned. We get done with a Supreme Being, it is true, but only by disintegrating Him into particles of dust, every one of which becomes a little god

with the same attributes possessed by the one all-controlling Creator. We eliminate one mystery and introduce three hundred quintillions of them into every breath of air, for either there is one almighty, intelligent, personal will, or there are billions of them in every pinch of mud and every drink of water. Movement, says Haeckel, is as innate and original a property of substances as is sensation. Then, if the atoms are not controlled by the will of God, they are self-controlled. According to this view, each atom is self-determining, self-knowing and self-acting, and being eternal, conforms exactly to all the conditions and qualities and attributes of God. Any eternal entity, however unseeable it may be, that determines itself and acts from itself and has sensation or knowledge of itself, is a god, for nothing can be conceived higher, or more original, or more absolutely independent.

18. Such a line of thought may appear like a fanciful movement such as the mind takes in a wild dream, but it is exactly the mental attitude to which one is driven when he seriously undertakes to think of the world without a transcendent, and, at the same time, immanent Creator. The elements of creation are not independent, self-acting entities. They are the dependent vehicles and instruments of the eternal mind of God. They are the letters God uses to express His thought. We know there is thought in nature and we are compelled to believe that it either inheres in the constituent particles, or was put in by the mind of the Maker.

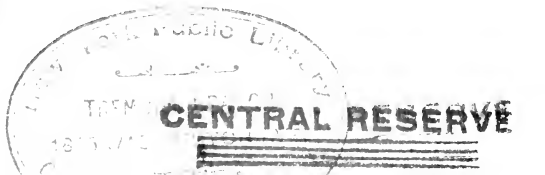
Try for a moment to get thought out of a mad world. Suppose all at once rocks should become light as feathers and feathers heavy as lead; that the sea should become solid and the mountains liquid; that the sun should rise in the west and set in the south; that calves should turn into elephants during the night and horses take to the water as alligators; that oak trees should produce watermelons instead of acorns. What would be the result? The world would become an insane asylum filled with deranged people. It is the orderly, uniform, consecutive thought the Lord is constantly sending to us through the intelligible, rational universe that keeps us mentally balanced.

Science has been defined as the systematic observation of the uniform way in which energy acts, but the study of the subject given above shows that science is the systematic observation of the uniform way mind acts, as it uses the elements and forces of nature to express its thought. Science is that part of the thought of God expressed through nature man has been able to translate into his own experience and express in language. When we get light and heat from the human shore of the ether sea, we know it is because they were put in from a sun side shore and sent in wavelets to us. When the glad notes of the feathered songster come in splashes up against the human shore of the morning, we do not conclude that the music inheres in the folds of dashing spray, but were put in from the mocking-bird shore and sent to us. What is

meant by science is clear. It is the certain and universally valid knowledge gained through experience on the human shore of being from a part of the truth contained in the infinite ocean of intelligible and divine reality. Science, therefore, is that part of infinite truth man has discovered and systematized in his own mind.

19. The definition that represents science as the thought of God man has found in the facts of nature and systematized in his own mind is in keeping with that held by the great scientists and thinkers of all ages. It is exactly the conception Copernicus held when he said that he found in the real order of the firmament a vision of the Creator. It is precisely the view given by Kepler when he declared that in systematizing the facts of the universe he was but thinking after Him the thoughts of God. It is the position announced as his own by Prof. E. Ray Lankester before the British Association at York in 1906 when he said the men of science in their investigations of the laws of nature were seeking in all reverence to discover the Almighty, the Everlasting. This definition of science is accepted by Sir David Gill, President of the British Association for 1907. In his address at Leicester Lord Kelvin said that Sir David Gill had shown them more wonders than could be found in any fairy tale ever put before the world. In closing one of the most remarkable scientific utterances ever delivered before the British or any other Association, he said: "By patient, long-continued labour in the minute

sifting of numerical results the grand discovery has been made that a great part of space, so far as we have visible knowledge of it, is occupied by two majestic streams of stars travelling in opposite directions. The hundreds of millions of stars which comprise these streams—are they the sole ponderable occupants of space? However vast may be the system to which they belong, that system itself is but a speck in illimitable space; may it not be one of millions of such systems that pervade the infinite? We do not know." Then, as if thinking while they had already found enough of God's thought as expressed in the facts and laws of the universe to make the reason reel without getting beyond the mere alphabet of the infinite literature, he asks in the language of Job: "Canst thou by searching find out God? Canst thou find out the Almighty to perfection?" Sir David Gill's teacher, Prof. James Clerk Maxwell, believed, too, that all facts were revelations of divine thought. He was a giant among the great masters of science of the past generation. He not only systematized in some of the most remarkable contributions ever made to science the thought of God in atoms and in the laws of light, but he was at the same time a poet and felt the message of the Almighty embodied in nature as music filling his soul with melody. Alone on a hillside heather, he represents himself dreaming, when he heard a chorus of voices speaking out from the facts of nature around him and he records his feelings in the words:


CENTRAL RESERVE

"No mortal can utter the beauty
That dwells in the song that they sing;
They move in the pathway of duty,
They follow the steps of their King.
I would hasten the world and its glory,
That vision of joy to prolong,
Or to hear and remember the story
That lies in the heart of their song."

20. Long before the scientists understood God's thought embodied in facts well enough to systematize it into valid knowledge, the poets felt it and uttered it in immortal verse. The poets were the prophets and forerunners of the age of science.

The Psalmist felt the thought of God in the works of creation when he wrote, "The heavens declare the glory of God, and the firmament showeth His handiwork." "Fire and hail, snow and vapours, wind and storm fulfilling His word: mountains and all hills, fruit trees and all cedars, beasts and all cattle, worms and feathered fowls." "Thou deckest Thyself with light as it were with a garment and spreadest out the heavens like a curtain."

Virgil felt the mind of God directing all things when he said: "An inward spirit feeds the earth, heaven and sea, the shining moon and giant stars: a mind pervades their limbs, and moves the mighty man."

"Wouldst thou," said Goethe, "with thy bounded sight make survey of the infinite? Look right and left and everywhere into the finite: you'll find it there."

Said Mrs. Elizabeth Barrett Browning, "The

earth is crammed with heaven, and every common bush afire with God. But only he who sees takes off his shoes: the rest sit round it—and pick blackberries."

"To me," said Wordsworth, "the meanest flower that blows can give thoughts that do often lie too deep for tears."

The saints also have recognized in the facts of nature the thought of God. "The more profoundly," said St. Basil, "we penetrate the laws on which the universe is founded and sustained, the more do we behold the glory of the Lord."

"Every aspect and process of nature," declared St. Augustine, "proclaims its Creator with diverse moods and changes like a variety of tongues."

"God is in the stars," said Zwingli, "and inasmuch as the stars are from Him and in Him, they have no essence or power or movement of their own: it is all God's and they are merely instruments through which the present power of God acts."

"All that exists," says Fénelon, "exists only by the communication of God's infinite being. . . . All that is in us, life, action, thought, will, is the product of His eternal power and life and thought and will."

William Law represented all the facts of nature as so many speaking figures, sounds and voices, preachers and trumpets, giving utterance to the thoughts of God.

"No mere mote's breadth," said Browning, "but

teems with witnessings of Providence." He was sure that God's hand did the rainbow weave, whereby the truth from heaven slid into his soul.

21. The greatest philosophers of the ages agree with the scientists, poets and saints that the facts of nature are the expressions of the thought of God. Plato believed that the ideas embodied in the world were more real than the matter of which the world is composed.

Aristotle regarded the world as the realization of the divine ideas. Hegel, the modern successor of Plato and Aristotle, held that "an exclusive knowledge of the world on its own account and without God would be nothing more or less than to know the untrue without the light of the truth. To know the world can signify nothing else than to know the truth of the world . . . and this truth is God."

If God's thought, then, were not embodied in the facts of existence, man could not possibly get any idea of them, because there would be no idea in them to get, unless he is ready to make the exalted assumption that there are no ideas in the facts, except such as he has read into them. If, in developing his science, man only takes the thought out of nature previously put into it from his own mind, it follows that his so-called universally valid knowledge is no science of nature at all, but merely the systematized form of his own lordly mental creations.

No lunatic asylum ever housed self-conceited and

self-named King Georges half so wild as the men of science would be if they were to claim for themselves a height of royal, intellectual significance equal to this. They would not merely be self-constituted kings occupying the thrones of passing and perishing empires, but self-ordained Lord Almighties thinking out the order of the eternal universe. The thought organized in science was either put into the facts by the Creator, or read into them by the creature, and if the creature did it and not the Creator, then the time has come to reverse the positions of man and God and to take the big G from the Almighty's name and begin with an overwhelming capital M the name of man.

II

Perception, the Beginning of Science

II

PERCEPTION, THE BEGINNING OF SCIENCE

FOR all our science we are indebted to three forms of mental activity which are known as perception, conception and recollection. By means of perception the mind becomes aware of the presence of an object before it. By means of conception the mind unifies the particulars of the object of which it becomes aware through perception and reduces them to general terms. Recollection represents the activity of the mind by which mental experiences, created by former perceptions and conceptions, are recalled or reproduced in memory.

The human mind, by the activity of its intuitive, conceptive and recollective powers, is capable of perceiving, conceiving and recollecting every reality that comes before it, whether from the material world, the human world or the spiritual world.

Our intuitions, or perceptions, may be divided into three classes. We have intuitions of the outside material order; these are sense-perceptions; we have intuitions of the inside human order; these are self-perceptions; and we have intuitions of the universal spiritual order; these are religious perceptions.

1. It must be understood, however, that we can have no cognitions or perceptions of either nature,

man or God, unless nature, man and God come before the mind. In every perception there must be a perceiver, something perceived and an act of perception. No world can be seen, unless there is a world before the mind; no man can be seen unless there is a man before the mind, and no God can be seen unless there is a God before the mind. It is as impossible for man to create perceptions out of nothing as it is for him to create atoms. He can find atoms when they are there before him, but he cannot make them. He can see things when they are there before him, or else at some time past have been before him, but he cannot out of whole cloth make things and see them. A man in delirium tremens sees snakes when there are no snakes, but he could not see snakes in the wildest pitch of nervous disorder had he never seen any, or read of them in moments of sanity. For all his perceptions, whether of the world, or of himself or of God, man is limited to the objects which produce them. He could no more have religious perceptions without God than he could have self-perceptions without man, or sense-perceptions without a world. Spiritual intuitions are as indubitable evidences of the presence of God as sense intuitions are of the presence of the material world, or as self-intuitions are of the presence of man.

2. That we can have no cognitions of nature without nature, and no cognitions of man without a self, perhaps all beyond a few extreme idealists and agnostics will be ready to admit. But the prop-

osition that cognitions of God imply the reality of His presence is not to the average man a self-evident one. He might say, "It is evident that our perceptions of the world imply its existence, for I can see it and hear it and handle it and taste it." He might say, "It is beyond any doubt that our perceptions of a self imply the existence of man, for I know more thoroughly than I know anything else that I exist." But he might ask, "Why does it follow that our perceptions of God imply His existence? I cannot see Him, or touch Him, or hear Him; I am not conscious of Him as of myself. May I not be mistaken in supposing that my perceptions of God are anything more than my own mental fancies? May not my cognitions of God be imaginary ejections thrown out of my consciousness, to which the attribute of reality is given?"

3. Let us test the implications of the assumption that with our intuitions of God nothing outside of ourselves corresponds. Let us suppose that all peoples have been mistaken in thinking that their cognitions of a Divine Being implied the existence of one. Let us regard religious perceptions as the unreal ejections the human mind has thrown out from the depths of its ignorance. Let us consider where this view will lead us. Now, from the beginning of man's career on earth, religious perceptions have been as common as perceptions of nature or as perceptions of himself. The Egyptians had convictions of the reality of the spiritual world so profound that all other beliefs were subordinated

to them. They regulated their lives with reference to their perceptions of the Unseen. The revenues of their country were exhausted in support of their religion. They spent far more money on their worship than they spent on their living. They built monuments in the interests of their faith that will last till the Judgment Day. All the remains we have of them are such as they devised to perpetuate their conceptions of divine reality. There is enough rock, it is said, in the tomb of Cheops to build a stone wall around the Republic of France. Into this vast charnel house was lifted the Egyptian perceptions of the Eternal. Their cities of trade, their residences, their places of amusement have crumbled into dust. Their mausoleums stand out against the sky, as seemingly immovable as the Alps. They transmuted their creed into methods of embalming, in order to preserve their bodies until God should come to judge the quick and the dead, and they would have succeeded had not the vandals broken into their last resting-places in search for gold. Their mummies are parched and powdered creeds. The whole civilization of ancient Egypt, with all its literature and strange gods and marvellous temples and endowed priests was an expression of their religious perceptions. They were crude and perverted, but that they meant more to the people on the banks of the Nile than any other they had no one can doubt who reads their history. The inhabitants were so saturated with religion that the whole country to-day is imprinted with the stamp

of it. Egypt was the embodiment of the spiritual idea, gone wrong, it is true, but showing its strength in a mysterious, rank and tangled labyrinth of luxurious religiousness. The sense of God was there, and it was seeking correspondence with the Eternal through the most elaborate and most wonderful religious ceremonial ever constructed by the human mind.

4. From Babylonia, the rich region created and watered by the Tigris and the Euphrates, we are getting thousands of tablets which contain the prayers, the litanies and liturgical texts used by the people before the time of Abraham. There the sense of the Unseen was at work as in Egypt. They formulated a creed for the worship of the sea god, and heard his voice in the murmur of the waves and in the ebbing and flowing tide; they saw his anger in the stormy waves and recognized it in the wild, tossing billows; they felt that he dwelt in the depths of the coral caves, invisible to man, yet knowing all things, because they had perceptions of the Divine Being. Why should the moon have been more to them than a silvery ball moving beautifully through the heavens, had they no religious perceptions? Why should it become more than a moon by becoming a fetish?

5. Our physical sciences, we know, have been formed by the reason out of the perceptions students have had of the material world. Our psychological sciences have been formed by the reason out of the intuitions men have had of themselves. It

is equally true that all religious rites and ceremonies, all religious hymns and literature, all prayers and adorations and sacrifices, all temples and synagogues and mosques and churches built for worship, all forms of religion, have been created by the reason reacting on religious perceptions. Religions have shifted their grounds and changed their forms, and vary in interest and importance according to the temper of the times, the school of thought, the bent of leaders, who, for the time being, happen to be in control of matters among different peoples; but everywhere the perceptions men have had of the Unseen, reason has reacted upon, and out of them created religious literature, built religious institutions and established religious forms of worship.

6. We are supposing that religious intuitions are not of an unseen reality, but are self-evolved fancies humanity, from the beginning of its career, has been in the habit of pitching out of consciousness into the heavens and mistaking for God. Even spiders appropriate the material out of which they spin their webs from the surrounding elements, but man, according to his view, spins his theologies out of the interior substance of his soul. Peoples do not learn to do this from one another. The inhabitants from the remotest island of the sea know nothing of the ways other nations do it. The Mexicans did it before they had ever heard of the Egyptians. The wild Indians of the West did it without even knowing of the existence of tribes in the East. The sense of the Unseen is a feeling, a

state of mind, common to mankind. But while it is permanent, if religious intuitions correspond to no unseen reality, it is matched by nothing outside of itself. This is the cog in human nature for which no mortise in the outside wheel of existence is found.

7. The vision of the Unseen, then, is illusion. The world men perceive is there, and the man they perceive is there, but the divine they perceive is not there. The Egyptians, the Assyrians, the Babylonians, the Chinese, the Hindus, the Hebrews, the Persians, the Japanese, the Greeks, the Romans, the Armenians, and the Benighted Islanders of the storm-swept seas have all been deluded. In reacting upon their religious perceptions, their intelligence dealt not with the attributes of a Divine Being, but with exhalations from their fears, or remorse, or weakness. In thinking they saw anything transcending the material, the great religious leaders were mistaken. Abraham and Moses and Isaiah acted upon their intuitions as if they represented a real Jehovah, and believing they did, planted a people and enacted laws for its regulation, and adumbrated in prophecy its coming glory, but they were misled by false appearances. Confucius and Buddha and Zoroaster imagined themselves as receiving impressions from heaven, when, in fact, they were victimized by their own conceit. Socrates, Plato and Aristotle, the immortal trio of great spirits, who stood for the ideal and built for themselves a kingdom in the unseen, we know to

have been further from the truth than the trifling sophists they annihilated. St. Paul, Polycarp and Jerome, great thinkers and consecrated men, turned the world upside down and changed the current of history by fictions they mistook for realities. Calvin, Luther and Wesley refreshed and renewed the guilty, weary world with ideas which they thought came down from above, but which were in reality projected from their own mental activity. Taoism, Shintoism, Mithracism, Mohammedanism, Sikhism, Sufism, Babism, and every other ism, as well as Judaism and Christianity, have all been formed out of perceptions with which nothing in heaven or under it correspond. The disciples of Christ sacrificed every earthly hope because of their belief in the existence of a Divine Being they felt sustaining them and comforting them, but they were deceived. The Bishop of Hippo, Augustine, at the age of twenty-eight years, abandoned his evil ways and consecrated himself to a life of holiness, because of a perception he understood with himself to have had of God, but the truth is he was in completer harmony with solid fact in his lust than in his saintliness. The world that stood over against the flesh was real and did match his low desire, while the divine world that stood over against his spirit was a phantom and could not answer to his religious hopes.

8. If religious intuitions do not imply God, as sense-perceptions imply nature, and self-cognitions imply man, then civilization is an unsubstantial

dream. When a person objectifies himself into some one else and comes at length to believe himself a ruler of a nation, when every one of his friends knows he is only John Smith, a jury is called to pass on his sanity. If a man continues to talk into one end of the telephone and to get answers back, when there is no one at the other end of it, a jury is called to inquire into the state of his mind. Now, if for thousands of years the human race has been perceiving God in nature, in conscience, in history, and answering back through prayer and reverence and song and liturgy and doctrine and temple, when, in fact, no God has been perceived, then it is evident that human nature is constitutionally deranged. It is remarkable, however, that man should find himself led astray at none of the gateways through which he holds commerce with outside reality, except the religious. The gateway of vision opens out directly into the kingdom of light. The gateway of sound exactly adjoins the kingdom of melody. The intellect borders on the realm of truth. The universe fits closely about and meets and matches every human sense, except the religious. If man would breathe, there is the air; if he would satisfy his hunger, there is the food; if he would slake his thirst, there is water; if he would talk, there are vibrations to carry his words. Every door of the soul and body is an open port through which there is constant exchange of inside and outside merchandise, except the one opening into the religious regions. When

through the spiritual sense he apprehends what he takes to be divine reality, he finds only the phantasmal form of his own soul filling the horizon in front of him.

9. We are forced, therefore, to conclude either that the religious sense feels God as completely as the physical sense feels nature and the self-sense feels man, or that the most important cog in human nature has no mortise in outside reality to fit it. But if there is no spiritual mortise in the nature of things corresponding to the religious cog in man's life, then it will be in order for some materialist to explain how it comes about that the religious wheel has turned out greater results than any other in the whole machinery of humanity, while toothed with cogs with which nothing in the outside wheel of existence corresponds. This is equivalent to saying that animism turns the wheel of savage life, and Buddhism the wheel of Hindu life, and Confucianism the wheel of Chinese life, and Zoroastrianism the wheel of Persian life, and Mohammedanism the wheel of Turkish life, and Christianity the wheel of all progressive life, with cogs which nothing in the various outside rounds of existence match. This is about as sensible as saying that butchers throughout all ages have been turning money into their coffers from the pockets of people by tricking them into the belief that they had appetites which called for meat, when in fact they did not; that millers have been grinding out flour with wheels made to match no movements of

hunger; that dealers in fuel have piled up fortunes by means of mercantile devices which had no mates in the weather; that clothes merchants have created for themselves a career by conducting establishments that correspond to no need for raiment; that Job and Homer and Virgil have made themselves famous through mental creations for which there was no call or appreciation in the universal human mind.

10. That we see God through religious intuitions as really as we see nature through sense-intuitions is the position held by St. Paul, who declares:

"For the invisible things of Him since the creation of the world are clearly seen, being perceived through the things that are made, even His everlasting power and divinity."

It must be clearly understood that the position here taken is not an attempt to revive the old philosophic doctrine of innate ideas. Man has no innate ideas, either of the world or of himself or of God. That ancient speculative straw has been threshed out and forgotten. Even John Wesley, the busiest man of the eighteenth century, took pains to condemn the doctrine in the following words: "After all that has been so plausibly written concerning the 'innate idea of God,' after all that has been said of its being common to all men in all ages and nations, it does not appear that man has naturally any more idea of God than any beast of the field. He has no knowledge of God

at all; neither is God in his thoughts. Whatever change may be wrought (whether by the grace of God or by his own reflection, or by education), he is, by nature, a mere atheist." [1]

Mr. Wesley was correct in saying that man had no innate idea of God, if by that he meant that he had capsulate in his soul when he was born an idea of God. He had no such idea of God. He had no idea of anything. But Mr. Wesley would have admitted that he was born with the undeveloped mental machinery for turning out ideas. Man had no idea of the world until nature stood before him and his mind reacted upon it and out of the impressions of it formed an idea of it. He had no idea of himself until out of self-perceptions he made one. He had no idea of God until he perceived God enswathing him, and out of intuition of the divine made an idea of Him. A loom does not come from the shop with innate cloth folded in it, but it comes with the capacity for making cloth when threads are furnished it. A gin has no seedless cotton in it, but when the raw product of the field is fed to it, the seeds will fall in one place and the lint pulled from them in another. The organ is not made with music in it, but when the master with notes in his mind formerly conceived by the composer blows the harmonized air upon its different keys, the force is converted into waves of melody. But if we can know God by exactly the same methods we use to know the world and man,

[1] "Wesley's Sermons," Vol. II, p. 309.

what becomes of faith? In reply it may be answered that we have no knowledge of any grade of reality whatsoever without faith. For knowledge of things material, we need sense-faith; for knowledge of things human, we need self-faith; for knowledge of God, we need religious faith. Faith does not come at the end of intellectual processes, by means of which perceptions are worked up into conceptions and laws and general ideas. Faith stands at the outer door of the mind, and all intuitions, whether of nature, man or God, must receive its approval before they can be initiated into the different degrees of knowledge.

"Why rushed the discords in but that harmony
should be prized?
Sorrow is hard to bear, and doubt is slow to clear.
Each sufferer says his say, his scheme of weal
and woe.
But God has a few of us whom He whispers in the
ear;
The rest may reason and welcome; 'tis we musicians know."

Haeckel says:

"Where faith commences, science ends."

With a slight change of the words "commences" and "ends," the sentence is correct when it would read:

"Where faith ends, science begins."

11. Before we can reason about gravitation, force, atoms, and ether, we must accept their existence by faith. Faith goes before proof. We cannot store up an item of knowledge of the tangible world even without making assumptions that no one could possibly prove. Those scientists who deride faith and take unction to themselves upon believing nothing without evidence should remember that before there can be any experience of anything, or any demonstration of anything whatsoever, they are under the necessity of making assumptions, every one of which must be accepted by faith. All confusion of thought on the subject of faith has grown out of the fact that it has been put at the end of mental processes, when it belonged at the beginning of them. Its function is to initiate knowledge. Its place is at the cradle of learning. It stands at the dawn of thought. Its work is to certify to the validity of our intuitions. The same argument that is brought by Haeckel against the existence of God was brought by Hume against the existence of man, and by Fichte against the existence of the world. The one thing that every man knows with the conviction of absolute certainty is the fact of his own existence. If the self is not known, nothing can be. Yet no one ever with the eye of sense saw himself thinking or willing or feeling. But he has as much confidence in his self-perceptions as in his sense-perceptions. Faith in our intuitions of nature, of man and of God is the condition of physical science, psychological science

and the science of religion. "Faith," said St. Paul, "is the evidence of things not seen." He was writing of religious faith and things not seeable by the eye of sense. He had no idea of teaching that we must believe in unseen things without valid evidence of their reality. Self-faith is the evidence of things not seen, or seeable by the natural eye, and sense-faith is the evidence of things we may see with the natural eye. Without faith in sense-impressions we become idealists. Without faith in self-impressions we become agnostics. Without faith in religious impressions we become materialists. Faith is impossible without evidence, and as sound and valid evidence is needed for our faith in God as for our faith in the world. But the evidence faith demands is not such as the reason presents, but such as the intuitions present.

"He that cometh to God must believe that He is and that He is the rewarder of them that diligently seek Him."

He must believe that God is because of his perceptions of Him through the things that are made. He that cometh to the world to understand it must believe that it is. He must believe in its atoms, which no one has ever seen; he must believe in its gravitation, which no one has ever by chemical test detected; he must believe in the ether through which it swims, which no one has ever felt; he must accept it by faith before he can further study it and find reason in it.

"Faith alone is the master key
To the straight gate and the narrow road;
The rest but skeleton pick-locks be,
And you never shall pick the locks of God."

12. Nature, man and God, the three terms which represent the entire sum of reality, must each be taken at the outset on faith based on the evidence of sense-intuition, self-intuition and religious intuition. Physical science is the knowledge of nature, but before the intelligence can make use of the cognitions of sense out of which to form it, nature itself must be accepted by faith. We must believe that God is before we can ever use the intuitions of Him to make theological science.

"Faith is an affirmation and an act,
Which bids eternal truth be present fact."

In denying the existence of God to begin with we close the door of the spirit through which God manifests Himself. If we start out with the understanding that there is no God, religious perceptions are strangled in their very birth. Of course, we can have no perceptions of God, if we mutilate the noblest part of our nature by putting out the eyes of the religious sense. We have it within our power to destroy our physical senses. We can plug up our ears and shut the windows of vision and close all the doors through which the outside world impresses us. But one foolish enough to destroy his physical senses would be doubly stupid if he imagined afterwards that he had more com-

merce with reality than those who kept open all the gateways of the body and soul.

"Inmost heaven its radiance pours
Round thy windows, at thy doors,
Asking but to be let in.

"Thou canst shut the splendour out,
Darken every room with doubt;
From the entering angels hide
Under tinselled wefts of pride,
While the pure in heart behold
God in every flower unfold."

13. If the Congress of the United States could by law close every port on the American coast except the one at San Francisco, and limit the trade, correspondence and every other sort of communication of its people to the inhabitants of the Pacific Islands, and prohibit all reading that could give information concerning any other nation on earth, except the scattered tribes of the ocean bordering the Western shore, we can understand how the rising generation would grow up without ever knowing anything about the populations of Europe, of Asia, or of Africa. The Chinese were so walled in and kept out of relations with other countries that for thousands of years millions of the natives in each generation lived without ever having heard of Greece, or Rome, or Palestine; or Aristotle, or Cæsar, or John the Baptist. By such isolation they reached the conclusion that they were the only mortals of significance and worth. So there are

materialists who enisle themselves in the seas of sense and close all the ports of their being, except the one into which ships sail from the realm of matter, and manage at length to eclipse even the Chinese in provincial conceit. They put out their eyes and look with complacent condescension upon those who live in the light. They seal their ears and cherish pity for those deluded enough to be charmed with music. They abandon the top story of life for the one at the bottom and gravely pronounce the universe a kitchen and regard every one a hopeless dreamer who thinks it was built for any other purpose than to give him something to eat.

14. Perception discovers the worlds of sense and self and spirit, and faith receives them, after which reason measures their coasts, surveys their lands, explores their mines, bridges their rivers and turns to account the resources of their soils, their forests and their mountains. Faith takes over from intuition a wilderness and reason changes it into a garden of knowledge. Faith receives from cognition a gold field and reason brings up the ore, separates the slags from the grains of yellow metal, and passes it through the mint for general circulation. Faith accepts from perception the crude colouring matter and reason grinds it and refines it and arranges it in notes on the canvas so that it sings out to the ears, called eyes, landscapes and flocks of sheep grazing in the meadows and castles in the heart of the woods, whenever the fingers of light come playing on the keys of pigment.

Faith
Reels not in the storm of warring words,
She sees the best that glimmers through the worst,
She feels the sun is hid but for a night,
She spies the summer through the winter bud,
She tastes the fruit before the blossom falls,
She hears the lark within the songless egg,
She finds the fountain where they wailed "Mirage!"

Knowledge explains what faith receives without question. It is not the province of knowledge to prove, but to explain and verify in experience that which is accepted without proof.

"Thou canst not prove the nameless, O my son.
Nor canst thou prove the world thou movest on.
Thou canst not prove that thou art body alone,
Nor canst thou prove that thou art spirit alone,
Nor canst thou prove that thou art both in one;
Thou canst not prove that thou art immortal, no,
Nor yet that thou art mortal—nay, my son,
Thou canst not prove that I, who speak with thee,
Am not thyself in converse with thyself,—
For nothing worth proving can be proven,
Nor yet disproven."

15. It is as evident that God exists as it is that nature or man exists. Nature is the object of sense-sight; and God is the object of religious sight. Intuition is seeing, and the vision of God has been as common in the experience of humanity as the vision of the world, or of man. Intuition is direct and immediate, but the process of understanding is slow. Columbus could take in the new world at a glance, but it is the work of centuries to

develop it. Whatever comes before the mind, however, either as nature in the form of sense-perceptions, or as God in the form of religious perceptions, is knowable. Whatever the mind cognizes as existing is intelligible; if it were not, there would be no cognition of it. What is perceived can be conceived and classified. The constitution of the human mind corresponds to the constitution of nature. The mind that is active in man can understand the mind that is embodied in nature, because both nature and man are expressions of the mind of God.

Haeckel says that "human nature which exalts itself into an image of God has no more value for the universe at large than an ant or the fly of a summer's day."

16. Unless the knowledge man gets of himself and the world and God by the reaction of intelligence on perceptions is valid and trustworthy, Haeckel is right—man is not of more value than the ant or the fly of a summer's day. He is not of as much value as the bee, or the beaver, or the tailor-bird; for they are all artists without the trouble of learning how to be, while he is left to accumulate knowledge as best he can by the use of his faculties. They know at the beginning what it has taken him thousands of years to find out, and even now the bee surpasses him in the application of the principles of mathematics. If human knowledge is a failure; if, as Spencer says, "The power which the universe manifests to us is utterly in-

scrutable;" if matter and mind and life are absolutely incomprehensible; if "all efforts to understand the essential nature of motion do but bring us to alternative impossibilities of thought;" if the knowledge man has supposed with himself to have gained is blank ignorance—then Haeckel, in saying that he is of no more value for the universe at large than an ant or the fly of a summer's day, does not state the case strongly enough. If what man knows or thinks he knows of the world and himself and God is illusion, then the lower animals have the advantage of him. The knowledge we call instinct built into their bodies does correspond with the facts with which they have to deal. They are not disappointed and deceived.

The flock of wild geese from the Northern Lakes have always found the South they felt in their blood was there. The beaver has always found the mud responsive to his tail, and the wood of the tree no harder than his teeth could cut. But if the cognitions of man do not correspond to things, but are hallucinations, phantasmal forms of his own consciousness, then the bears and tigers and beavers and bees and ants and gnats have the advantage of him. Human beings, who have exalted themselves, as Haeckel says, into images of God, are the greatest fools and the only fools on earth. The universe puts a higher value on genuine flat-footed tigers, who find, as they roam on all fours, the jungles matching their every want and anticipating their every item

of constitutional knowledge, than upon the so-called lords of creation, who have only climbed to the top of animated existence in their conceit. They are like a company of plain labourers imagining themselves to be King Georges, and instead of occupying thrones as they think they do, they are perched upon stools in the different rooms of an insane asylum. It were better to be a good, healthy tiger in the tall cane of the swamps any time than to be a crazy, self-inflated, self-deceived descendant of Adam, running at large in the high places of existence. It were better to be a real ox, grazing in the meadows, than an unreal human biped, walking with his head full of delusions in a paradise of fools.

III

Facts, the Raw Material of Science

III

FACTS, THE RAW MATERIAL OF SCIENCE

THERE must be facts with thought in them before there can be any science, as surely as, at a lower level of existence, there must be material objects with carbon in them before there can be any fire.

Bare, empty, unrelated facts, even if any such were adrift on the sea of being, could never get into the ports of the human understanding. The harbours of the mind afford no shelter for lawless tramps sailing the deep without a flag and without a directed cargo.

The thought in facts the mind finds available for science is just their kinship to one another. In losing their relations they lose their intelligible existence. All in a fact the mind can grasp and turn into science is its relations. Strip it of these and it is no longer intelligible, and for the mind no longer exists. We are forced to think of all things as standing together in a general system we call the universe. The parts of this are necessarily related, or together they would not make the cosmos, but the chaos. Facts, however, are to be distinguished from their relations. The outside of objects we may call the appearances of them, and the inside the relations of them. The difference

made in thought between the outer and inner side of facts is due to the mental doorways, known as sensibility and reason, through which all objects pass into the mind. The part of the object the sensibility admits is the appearance of it; the part the reason admits consists of the relations of it. Sensibility, the servant who opens the outer door, does not know anything but the appearances; reason, the master, who opens the second door, does not know anything but relations. By sensibility things are apprehended; by reason they are comprehended. Sensibility feels facts; reason thinks them. Sensibility is a photographer and takes pictures; reason is an artist and creates them. Sensibility merely hears the waves falling against the shores of the mind from the depths of sound, but reason takes their pitch and measure and melody to use in building a ship of song. Wool on the sheep's back is something white to sensibility; to reason it is so many related threads for reducing wild beasts from the jungles to harmless pictures on rugs. To sensibility an iron mountain is an enormous something occupying space; to reason it is a huge pile of related elements for chains and anchors and bridges.

1. For convenience in thinking, it is well enough to divide the mind into so-called faculties and name them intellect, desire and will. These are terms one may use to describe its functions, but he should not be misled into supposing that they cut it, like bulkheads do a ship, into distinct and separate

compartments. The conscious self uses the mind through its different modes of activity to get out of the facts that surround it what there is in them for the whole of life.

The different sides of a fact come before different departments of the mind for consideration. The relations of it are dealt with by the intellect, the value of it is appraised by the desire, while the work involved in getting possession of it is turned over to the will. Through the different administrations defined by the terms intellect, desire and will, the self estimates, appreciates and appropriates to its uses the facts it finds around it. Intelligence, desire and will are the mental organs by means of which the self digests, assimilates and changes into the forms of its interior life the entire content of facts of every grade and range necessary to its equipment and furnishment. Out of the relations embodied in facts, the self, working through the mind as intelligence, makes science ; out of the essential content of facts, the self, working through the mind as desire, appraises values ; and the self, working through the mind as will, turns science and values to account in the activities of the practical life. If the mind had no function except intelligence, the self, like a Hindu Brahmin, would do nothing but think ; if the mind had no function but desire, the self, like a polywog, would do nothing but appropriate ; and if the mind had no function except will, the self, like a chicken with its head cut off, would do nothing but jump up and down.

2. All facts contained in the illimitable storehouse of the universe are either material or human or divine. They may be put into three classes and represented as belonging to the one defined by the term nature, or man, or God. It is not to be supposed, however, that these descriptive words divide into hard and distinct divisions the facts for which they stand. They are simply for convenience in thinking. God creates nature and man, and is immanent in both, so from this point of view, we might say that all facts are divine. Man grasps the meaning of nature and God, and appropriates the value of the one and love of the other. So, from this point of view, we might say that all facts are human. Nature is only a vast scene of blind unconscious elements and forces God uses to write out the literature of His mind for the instruction and enrichment of man, His child; and so, from this point of view, we might say that the facts of nature constitute the divine and human alphabet through which God expresses thought and from which man receives it. The eighty original elements of nature as now known are variously related and thus embody the thought the student arranges into physics and chemistry. The relations recognized in the movements of the heavenly bodies are written out in astronomy. The relations among plant and animal organisms are translated into biology. Out of the facts of nature the thought is obtained with which to build the physical sciences.

Humanity, as parcelled out in individuals, living together in a state of society, discloses various relations, which are organized into the sciences of sociology, political economy, jurisprudence and ethics.

God, as the infinite, self-conscious, self-determining, self-active Creator, is not the lone, cold, unrelated Absolute.

He is the Father of the human race. As eternal intelligence, He thinks all things; as eternal will, He guides them; and as eternal love He seeks to educate, discipline and redeem His children. In the revelation He makes of Himself in nature, in the structure of the human spirit, in history, and in life, man finds the thought out of which he formulates his theologies. But there are other great facts, which contain thought available for science, besides those furnished by nature, considered in itself alone, or by humanity, considered in itself alone, or by God, considered in Himself alone. For instance, there are compound facts that are not in nature alone, nor in man alone, but result from a partnership between some original human quality and some natural current of influence. There is vision. It is not in the eye alone, nor in the light alone; it is a compound fact formed by the union of the sun's rays and the mechanism of sight. Hearing is a double fact and represents the experience we have when the auditory nerves trade with the waves of the atmosphere. Breathing is a dual experience that comes from the continuous traffic between the air

and the lungs. Physical strength is a fact due to the union of hunger and food.

3. Besides these facts, which owe their existence to something human getting into association with something natural, there are those which are due to something human getting into co-partnership with something divine. Knowledge is a fact made up of inside faculty and outside thought. Music is a fact due to the sense of harmony in man, combined with the notes lodged in objects outside of him. Morality is a fact, one-half of which consists of the human will and the other half of divine law. Religion is a fact, the human half of which is found in the religious sense, and the divine half of which is found in the revelation God makes of Himself.

The universe of facts man faces unite to define the place and significance and worth of his life. The whale is defined by a square mile of ocean, the ox by an acre of meadow, and the squirrel by a tree of hickory-nuts. But nothing less than the whole sum of things is sufficient to spell out the infinite meaning of man. What a thing is to another, that it is within itself. What man is to the universe, what he is by his intellect to the relations of it, what he is by his desire to the value of it, what he is by his will to the reproduction of it, that he is in himself.

4. The constituent elements of man have been enumerated as body, mind and spirit, but these terms are not to be taken as representing distinct divisions in the one self, but merely as convenient

phrases used to describe three phases of the one personality. From the standpoint of breathing, animated dust, man is body; from the standpoint of perceiving, reasoning activity, he is mind; from the standpoint of capacity to live a universal and holy life, he is spirit. As body, he passes and perishes and sinks in the earth; as mind, he projects himself in literature and lives through time; as spirit, he unites himself with God and lives through eternity.

Man, as spirit, is the real, comprehensive, all-inclusive self, of which body and mind are but different aspects. Body and mind are engaged in a perpetual warfare for mastery, the one over the other, until they are reduced to terms of service and loyalty and unity in the wholeness and integrity of man as a spirit. The body cannot, as a rebel, live a life of mere animality without making the mind a slave of lust and passion. Even if it were possible for him to become a complete animal, he would lose whatever pleasure there is in being an animal. In coming down with his outfit of mind and spirit into the body to find entertainment, he overworks and deranges it. He misses the limited pleasure the body is able to furnish when properly used by forcing it into a strange and wild and lawless activity that destroys it. A boy wants no more power to run a flutter mill than he can get by holding up the spring branch by means of a diminutive dam. One turn of the Corliss engine would obliterate his toy and bring him pain instead of delight.

5. In triumphing over the mind, the body defeats itself, degrades the mind and corrupts the spirit, but the complete triumph of the mind over the body, in the sense that a Hindu monk triumphs over it, while not so disastrous as the enslavement of the mind by the body, is still the arrest and defeat of life. The body is the seat of desire, and if by the entire conquest of the mind this aspect of the personal self should utterly be eliminated, then man would be like a watch with no spring in it, or an engine with no steam in it, or a trolley with no lightning in it, or a solar system with no sun to heat it. Nero permitted himself to be consumed in a conflagration of desire. The kind of force that flamed in the body of the emperor St. Paul converted into the light and energy of his spirit. Without desire, Nero would never have burned Rome and killed himself. Without desire, St. Paul would never have planted the Christian Church in Europe. Had there been no desire, there would have been no sin; had there been no desire, there would have been no holiness.

The whole universe of facts can only be digested, appreciated and appropriated by man when he meets it in the integrity of himself, as a spirit, whose temporary home is the body and whose instruments of achievement are found in the mind. It is only when we think of man as a comprehensive spiritual unity, with body and mind as subordinate elements of it, that we can regard him as the human half of the sum of things placed over against him.

As mere body, he is an animal and calls for what matches his simple and limited necessities; as mere mind acting through body, he is an unnatural animal, and in addition to what he needs he calls for what degrades him. But when he stands in the presence of the heavens and the earth a whole and unbroken spiritual self, he finds all the facts they contain and all the thought they embody and all the values they represent open and accessible to him. As a finite spirit, he associates them in terms of intelligence, affection and volition with the infinite spirit.

6. It has taken man a long time to convert the thought contained in tangible facts around him into terms of science. It is only within recent years that he has been able to reduce it to forms of systematic, accurate, verifiable knowledge. All the ancients knew of the constituent elements of material bodies they were able to express by four general terms, which they named earth and air and fire and water. Man has divided and subdivided these huge masses until now, instead of four terms through which to express his knowledge, he has about eighty. He has not only named the elements, he has weighed them and measured them and determined their affinities. He has learned how to group particular elements so as to get compounds of one sort, and then how to take the same elements and group them differently and get compounds of another sort; how to make carbon, hydrogen and nitrogen stand together so as to give

him bread, and then by forcing them to change sides and turn corners to give him prussic acid. He has changed caloric from an igneous fluid into a mode of motion, and by so doing has started the countless wheels of toil. He has changed astrology into astronomy, and out of the wheel of fortune that once stood in the heavens he has made a useful and universal clock by which sailors ride the sea. He has converted alchemy into chemistry, and while not finding the philosopher's stone, which turned everything it touched into gold, he has found something better in the secret of preparing his food so as to turn disgruntled dyspeptics into amiable men and women. He has driven the gods and goddesses from the classic mountains, the dryads and the genii from the woods, hobgoblins and ghosts from the darkness, and closed the career of the fortune-teller and the quack and the fake among intelligent people. He has changed the doctor from the conjuror into a rational physician. He has increased his vision a million-fold by finding the telescope, and the gift of hearing by discovering the telephone, and the sense of smell by the invention of the chemical test. He has taken down the thought habitations of the fathers and replaced them by others so wide and high that many earnest people long accustomed to close mental quarters have been afraid they could never move into them without catching, in the wide cosmic spaces, their death of cold. He has found the secret of sending his messages on the undulations of the luminiferous ether,

and a recent professor of science has, perhaps, playfully declared that we are in thinking distance of the time when, if a father wants to talk to his son, he knows not where, he will only have to call in a loud, electro-magnetic voice, heard by the son, whose ear is electro-magnetized to the same pitch and by no other, and say, "Where are you, John?" the low reply will come back, "I am at the bottom of a slate quarry in Wales, father," or "I am spending the day with a friend on his sheep ranch in Australia." If, after calling, no answer comes back, he may know that his son is dead.

7. The thought in material facts man has organized into science has been in them from the beginning. He failed through the ages to find it because he sought for the theory of things in his imagination rather than in the objects themselves. He developed wonderful mental systems to account for and accommodate the nature of things, but he found, when put to the test, that they failed to get hold of the real order of facts. Then he would invent other thought schemes and find that they also failed to get hold of what he saw without him. He devised mental traps to catch the heavens in, but learned after a while that the planets would not enter them. He constructed intellectual machinery for reducing the atoms to order in his mind, but the molecules refused to turn in the direction of his intellectual wheelwork. Things evidently had ways of going somewhere, but the roads he built for them they refused to travel over. There

was surely an outside program of reality, but his inside sketches did not conform to it. So for thousands of years he found his universe of thought turning one way, and the universe of fact turning another. In modern times ancient methods have been abandoned. Man learned from costly experience that they will not work. They kept him from his estate. They constantly misled him. However promising they might appear to be, he found when he followed them that they always left him outside the plantation he felt belonged to him. Though he fashioned them, he found they were shackles and not instruments of progress. Though he invented them, he learned that they formed a prison for his mind rather than means to its freedom. The mountains were stored with wealth, but his theories paralyzed enterprise by misguiding his energies. The sun was a solar engine with unlimited power to let, but his theory of heat led him away from it and left him to trudge rather than ride in palace cars.

8. But weary at length of self-devised methods that baffled him and threw him back upon himself, disappointed and impotent, he conceived the idea of finding his theories from a study of facts. This was new and heretical, but the wisdom of the plan was vindicated by results. It had been the custom to settle the order of things by resolution. Men in convention assembled felt it incumbent upon them to determine the nature of things by vote. If the majority declared the earth to be flat, that was

an end to the controversy on the subject. The thought of actually investigating an object in order to find out its constitution and place and movements was foreign to the minds of those called to administer upon the affairs of the world and its interests. Many of the poor, lone students here and there, who attempted to look into facts to learn how they worked, paid for their experience by the loss of their daring heads. In modern times, however, the revolt from the bondage of unworkable theories has been so pronounced and wide-spread that there is no longer any attempt to burn the men who think. Their motives are often misinterpreted, but they are no longer reduced to ashes. Explorers, who have used modern methods in manipulating nature, have found so much to bless mankind that they are beginning to get credit for being useful members of society. Darwin at last sleeps peacefully in Westminster Abbey.

9. It is inevitable that methods which have been so efficient in the study of nature should now be applied to the subject of religion. Thinkers have failed to reach the complete reality of man and God by self-devised theories as thoroughly as they failed for thousands of years to grasp the meaning of nature by imaginary methods. The facts of religion, when approached by the modern scientific method, are ready to yield results as rich for the spirit as have the facts of nature yielded results for the enrichment of our temporal well-being. We have sent over to the promised land the Calebs

and Joshuas of physical science and they have come back laden with purple grapes for the satisfaction of the body; but, instead of sending over other Calebs and Joshuas to find out what there is in Canaan for the spirit, we have been accustomed to turn back to wander in the wilderness, eking out a miserable existence on the manna our very wretchedness provokes from the pity of heaven. The picture may appear overdrawn, but it is not. We are revelling and luxuriating in the wealth science has won from the facts of nature, but how few there are who are rolling and growing great and magnificent in the wealth science can win from the facts of religion! The facts are overflowing with the religion the spirit needs, but we do not address ourselves to the consideration of them as we do to the facts of nature. Hence, our spirits hobble along on crutches, while our bodies fly through space in palace cars. Our spirits live in floorless huts, while our bodies flourish in steam-heated palaces. Our bodies are magnified to the point of bursting and our spirits are minified to the point of collapsing. The part of us that ought to fly is held to the dust, and the part of us that belongs to the dust is permitted to attempt the experiment of flight. The spirit is down where the appetites ought to be, and the appetites are up where the spirit ought to be. And all this comes largely from the truth that science has brought so much more from the facts of nature for the body than from the facts of religion for the spirit. We have been

afraid to approach the facts of religion with the scientific method. We are like the old-time guardians of nature, who were afraid for the facts of it to be really investigated as they were in themselves, lest the explorers might find something to destroy their preconceived ideas of it.

10. It is true that the theories one holds should never be abandoned until he has found others which more clearly and completely account for and accommodate the facts of which they are the subjects, but he should always remember that the theories he holds are not the facts. They are valuable only in so far as they enable him to grasp the real meaning of the facts with which they deal.

It must be clearly understood, however, that the ideas and conceptions furnished by our minds, which we are to apply to the facts offered us, are such as we have obtained from a study of the facts themselves. We must not come to facts with preconceived opinions, with a view to forcing them into conformity with our ideas. That was the mediæval method. Every fact is related to some other fact, and what a fact is for another, that it is in itself. In finding what, by observation and experiment, a fact is for another or for a group of facts, and therefore, what it is in itself, we get a theory of it that accords with its nature. Ptolemy came to the heavens with a theory of them already in his thought, but he could never corral the stars with it and pen them in his mind. Copernicus came to the heavens to find a theory through the

study of the planets, and the conception of them he formed by this method enabled him to house the firmament in his intelligence.

11. It is only by reducing facts to terms of science that we are able to get from them all they contain for the practical life. For thousands of years man has stood in the presence of all the illimitable stores of wealth he has just now learned, by means of the scientific method, to take from nature. He remained hungry in the presence of bountiful supplies of food. He remained thirsty close by water ready to gush from every hill. He went half clad with raiment hidden beneath the soil and diffused through the sunshine. He shivered in the darkness with warmth and light going to waste over every waterfall. He painfully trudged over muddy roads with palace cars buried in the mountains, standing in the trees and falling from the sun. He housed himself in rude shanties with mansions concealed in the hills and rising to heaven in the forests. He sent his messages by means of torches from height to height with undulations of the luminiferous ether penetrating every recess of his body and every object before his eyes. He remained half bent beneath loads with forces enswathing him ready to bear them. He slept beneath skies filled with constellations with telescopes lying in brass and sand to bring them near. He was ignorant of the doings of his brothers on the planet with movable type piled beneath his feet to give him news every morning of the activities of humanity.

He was lonely and depressed with songs circulating in the air and capsulate in the woods and the metals to thrill his heart. He was sick with medicines in minerals and waters and plants to cure him. He was in pain with opiates to relieve him. And he was thus deprived of what belonged to him and of what God made for him for the simple reason that he blindly persisted in taking to facts self-devised theories with which to manipulate them, instead of forcing facts to give up the theories embodied in them.

12. The science of a thing, then, is simply the idea of it the mind gets by the study of it. It is the relations of it and the thought of it converted into verifiable, valid knowledge. It is the theory of a fact the mind finds imbedded in the fact itself, and afterwards gets out to use in manipulating it and turning it to account. It is the light in a fact, kept burning by its relations, the mind finds by the light of intelligence and transfers from the outside to the inside of itself. All facts, we may say, whether material or religious, are aflame with the fire of truth kindled in them by the eternal intelligence. When man turns the light of facts into his own thought, he has the science of them. The Lord is the light of the universe and the spirit of man is the candle of the Lord. Science is the radiance that illuminates the mind when the candle is lit by rays from the eternal centre and source of all light. Science is to the mind what the sun is to the eyes ; the latter discloses the outer surface

of things and the former makes known the hidden meaning of things. When we have the science of a thing, we have the light by which to see the entire content of it. Science is valuable, therefore, as a burning hand lamp in a mansion is valuable to show us where the things are and what the things are belonging to different sides of our life. Science creates nothing; it only reveals the nature and value of what is.

13. Relations are the wrappers in which facts are bound up. It is the province of the intellect to untie the packages, thus disclosing to life the contents and values of the facts. When this is done, the side of life to which the value is related will call for it. If the package contains food for the body, hunger will call for it. If the package contains mathematical relations simply without any content, the intelligence will call for it. If the package contains a mixture of atmospheric vibrations, the musical sense will call for it. If it contains a mixture of ether waves, the sense of beauty will call for it. If it is a bundle of laws for the regulation of conduct, the conscience will call for it. If it is a religious package the intellect unwraps, the spirit will call for it. In this way the human self, standing in the presence of the universal storehouse in which all kinds of bundles are wrapped up and packed away, by means of its faculties, intellect, desire and will, unties them, wants them and appropriates them for the equipment and furnishment of the whole of life. Humanity has

been so busy for the past half a century unwrapping the packages which contain values for the material well-being of man, that the moral and religious bundles have been largely ignored. The time has come to take down from the higher shelves of the environing merchandise the values which relate to the spiritual well-being of humanity.

Man cannot live by bread alone; that is, the tangible and material word of God. He needs for the enrichment of his entire self every word that proceedeth out of the mouth of God; that is, he must take the words spoken for the ethical and spiritual nature as well as that spoken for the physical.

IV

The Test of Science

IV

THE TEST OF SCIENCE

THE human mind deals with relations of material, human and divine facts in three distinct ways. It perceives them, conceives them and reproduces them. During the first stage of mental activity things are seen singly, during the second they are seen in classes, during the third they are re-created. For instance, myriads of impressions are made upon the eye by a huge object that stands before it. This is perception. The mind uses the individual impressions given in perception as so much raw material for a single generalization, which represents a mountain. This is conception. By the aid of imagination the mind uses the data furnished by perception and conception to make a mountain of its own, either smaller or larger than the real one. This is reproduction. Intuitions of material facts are known as sense-perceptions, intuitions of human facts we may call self-perceptions, and intuitions of divine facts are religious perceptions. Thus the mind conceives and reproduces from perceptions of material facts, from perceptions of human facts and from perceptions of divine facts. It has been said that science is the systematic classification of the

uniform ways in which energy acts. This is about as correct as would be the statement that certain knowledge of literature is the systematic classification of the uniform ways in which letters act.

Energy possesses no power of automatic guidance and control. It never acts, except as impelled and directed by omnipotent will, as the alphabet never acts, except as the mind uses the symbols of it through which to express thought. Science is the systematic classification of the uniform ways in which the eternal mind acts in the expression of thought and volition through material, mental, moral and spiritual elements and forces. The universe before us with all that it contains is not there by its own motion, but is there because of the creative, directive, immanent mind of the Almighty. Every scientific experiment starts with the assumption that the universe is intelligible. Science is but the discovery and classification of the thought embodied in the cosmos. The human mind could not explore the world if it were mad and not rational. Mind can only comprehend and classify that which it takes mind to create and sustain. Not a sane man on earth disputes that thought is everywhere displayed in the nature and arrangements of the facts stored around us. This thought was either put there by the mind of the Creator, or else things themselves are thinkers and have expressed it. It is impossible to accept the proposition that atoms think, feel and will, and are, therefore, little personalities. It is easier to believe

in One Personality, using things as the vehicles of His mind, than to believe in personality powdered into billions of infinitesimal points. The unending field of facts, reaching out illimitably from us every whither, are packed full of ideas. If this were not so, man could kindle no light of science in his mind, no more than he could turn on an incandescent light in his room, if either the sun, or else the ether-undulations were not sending out fire.

1. The attempt has been made to limit science to the material objects of creation, to such as reach the mind through the senses. It is contended that the wondrous mental mill, which turns out knowledge generally, can only produce the certain high-grade sort, called science, from raw material sent in from the outside world. In so far as the Author of all things has expressed thought through mountains, rivers, trees, bears and worms, the mind can find and make science of it. But in so far as He has expressed thought through the qualities and relations and aspirations of the soul, through the elements of mind as felt in thinking, desiring and willing, and through the elements of religion as felt in reverence, awe and wonder, we can do no more than speculate about it, we can build no science out of it. This is to assume that He has constructed a myriad-toned organ without being able to play upon any except the bass notes; that He can utter Himself through matter, with its atoms, molecules and compounds, but not through mind with its reason, conscience and imagination;

that He can speak through thunder, and hail, and storm, but not through kindness, sacrifice and devotion; that He can show His thought in the structure of the lion, the tiger and the hyena, but not through the ideals of Dante, the consecration of Francis and the service of Florence Nightingale. If God expresses Himself in tangible facts only, then there can be no science, except such as is turned into the mind through the observation and classification of the thought contained in material objects. But the elements of human will and emotion and intelligence and spirit are expressions of divine thought no less than are the elements and forces of matter. If we can read God's thoughts as penned in the rocks and out of it get science, why should we not be able to read His thought as expressed through the facts of religion and get science?

2. Believers in spiritual realities have permitted themselves to be browbeaten and driven away from the quarries of science in their search for foundations to put under their convictions. The workers engaged in taking up the walls of physical science have attempted to preëmpt the hills in which good underpinning is found, with the general understanding that they were lifting up the only structure bottomed on hard blocks of fact. Religion in their esteem is beautiful enough in its way, often giving zest and colour to the lives of the sorrowing and the storm-tossed. Those inclined to give themselves up with enthusiasm to this harmless sort of

emotional luxury have, they are polite enough to say, a perfect right to do so, but they deceive themselves the moment they suppose anything under their hallucinations beyond the banyan tree kind of props, which grow downward out of their imaginations. The clergy and others engaged in building theological homes in which to house transcendental hopes are tolerated as mild forms of animated innocence, whose presence lends an item of variety to social existence.

It seems that religious leaders themselves have gradually reached the strange conclusion that the students of material science have a monopoly of the whole realm of certain knowledge, while they have a monopoly of the whole realm of faith. So it comes to be accepted as a fair and equitable division to credit up the chemists, geologists, etc., with all the science, and the preachers and professors of religion with all the faith. But such a line of separation is not satisfactory, because science is impossible without faith, and faith is impossible without science. It takes as much faith to accept the scientific proposition that a particle of hydrogen in water at the freezing point suffers 17,700,000,000 changes every second, and yet in spite of all these hindrances manages to go a distance of seventeen miles every minute, when no one ever saw or tasted a hydrogen particle and could not if his life depended upon it, as it does to accept the religious proposition that God made all things and controls them. The amount of faith necessary to accept the

statement that a cubic inch of air contains three hundred quintillions of molecules, every one of which, in flying on its way, changes its direction 8,900,000,000 times a second and yet travels the distance of eighteen miles a minute, is simply enormous.

3. Science is a body of certain demonstrable knowledge made by the combination of mental activities with different phases of the universe which present themselves before the mind. Some of these phases are material and approach the mind through the five senses; some are mental and approach the mind through the imagination; some are æsthetic and approach the mind through the sense of beauty; some are moral and approach the mind through the conscience; and some are spiritual and approach the mind through the religious sense.

Now, every grade of science has tests peculiar to itself for the establishment of its claim to be certain and demonstrable knowledge. There are things that knock for admission into the mind at one or the other of the five front doors of the senses. Some things tap the nerves, which are arranged to ring when objects come before the eye. Whatever seeks entrance into the interior of the soul through the eye must find admittance at that opening, or it cannot get inside at all. It might knock at the door of taste or touch, or smell or sound, but would not be recognized. It would be very absurd for the things which conform to such conditions as enable them to enter the mind through the eye to get in

and then put on airs and look with self-complacent contempt on such as managed to get in through the ear or the nose, or the tongue, or the hand.

4. The colours of Murillo would have no reason to regard themselves as superior to the notes of Mozart. How the general opinion ever came to prevail that the mind can make science out of none of the impressions which come into it, except such as the senses bring in from tangible facts, is a great mystery. Because of this, it is thought that the only knowledge we have that is certain and absolutely reliable is that the reason has built out of sense-impressions. It is admitted that the knowledge the reason forms by reaction on impressions from the material world is not to be demonstrated in the same way in which we would test the knowledge the reason makes out of impressions received from the interior world of self, or from the all-encompassing world of the divine spirit. But if it is the business of reason to manufacture science out of impressions, and if it is the only mill under heaven in which intuitions can be turned into knowledge, its mechanism must be comprehensive and fine enough to work up the perceptions of God and the perceptions of self into as finished a degree of certainty as the perceptions of the material world.

5. The attempt has been made to limit science not only by confining it to material objects and to such knowledge as the mind can make out of impressions from tangible objects, but also to limit it

to the outside appearances of objects. It is said we cannot know what things are in themselves; we can only know what they appear on the surface to be. It will seem to the average reader a waste of time to discuss this phase of the question, but if we are to establish a scientific basis for religion, we must be patient enough to study the question at the foundations. It is difficult work, but the profit of it will be apparent when we come to the superstructure of religious knowledge. If as much effort had been made to disclose the fundamental presuppositions of materialism and agnosticism and atheism as has been made in fighting them in their developed form, there would have been no such manifestations of misleading isms as we find about us today. Their existence in the open light is a serious reflection upon the mental powers of those supposed to have the cause of truth at heart as the existence of fortune-telling Gypsies in a community is a reflection upon the enlightenment of its people. We have been content to fight agnostic lions and materialistic tigers as they came upon our theological premises, furious and full-grown, but have made no determined effort to clean up and clear out and capture the habitat where they breed, so as to rid ourselves of further molestation from them.

6. In 1804 Immanuel Kant, one of the greatest thinkers since Aristotle, died. In the last quarter of the eighteenth century he published his immortal work, "The Critique of Pure Reason," a book that has done much harm and much good. In arresting

the sensationalism of John Locke, and the out and out skepticism of David Hume, his contribution was of untold value, but in reviving and giving form to the view that we can know nothing but phenomena, the appearances of things, and not things in themselves, he arrested the progress of the human mind in its efforts to arrive at a rational theory of the sum of things. He proposed to do in the realm of metaphysics what Copernicus did in explaining celestial movements. When the astronomer found that he could make no progress by assuming that all the heavenly bodies revolved around the spectator, he reversed the process and tried the experiment of assuming that the spectator revolved, while the stars remained at rest. Kant proposed to make the same experiment with regard to the intuition of objects. He said that it had hitherto been assumed that our perceptions conformed to objects, but that all attempts to ascertain anything about the essences of these objects upon this assumption had failed. So he proposed to see if he could not be more successful in metaphysics by assuming that objects conformed to cognitions. The attempt to introduce a complete revolution in the procedure of metaphysics, after the example of the geometricians and the natural philosophers, constituted, he said, the aim of "The Critique of Pure Reason." He proposed to overturn the experience of the human race, and rule out of court the combined common sense of mankind, by seeking to prove that our notions do not regulate themselves

according to the things we see, touch and taste, but that things regulate themselves according to our notions. That is, when a tree stands before a person, it is not as the plain farmer supposes a tree out there, as it appears to be, but is the tree the notion of the farmer has made of it. His cognition of it does not conform to the tree, but the tree conforms to his cognition. As to what the tree is in itself, the farmer has no means of knowing; he only knows the thing as it appears in his cognition. That is, the tree before him out there in the field he does not know at all; he only knows a mental tree the powers of his thought have set up in his mind. He knows nothing of the tree in itself, and nothing of the mind upon which the appearance of the tree is impressed in itself. He simply knows the appearance, the notion. So, in reality, the tree is nothing but his own notion, it is the state of his own consciousness during the time the object in question is before his eyes.

This will, no doubt, seem trivial and absurd to common sense. But, however ridiculous it may appear, it is well enough to consider it. For from this thickly set grove of words about the impossibility of knowing the mind in itself, and the object that impresses it in itself, and nothing but the appearances of the object, etc., come the little foxes which have been spoiling the vines of thought for a hundred years. It may appear to some that intellectual fox-hunting is a waste of time. But it is not. All harmless, animated forms of existence

have a right to live, but such as prove themselves to be pests should be tracked down and killed.

There are microbes that are useful in the economy of life, and there are others that cause disease. Pasteur used all the powers of his genius to show the nature and hiding places of destructive germs, and he served the interests of universal health.

7. Religious science, and for that matter any science, is impossible with Kant's theory of knowledge. Any knowledge that gets hold of reality must presuppose three points as settled. If you are to have knowledge of a tree, you must take it for granted that you perceive it and all there is of it, the thing in itself, appearance, and all, and you must take it for granted that you are the person who perceives the tree, and that the mind with which you look through your eyes to see the tree you know in itself as well as the part of it that appears, and you must take it for granted that for the time you are looking at the tree, you are in correspondence with it through the perception of it. So in this simple bit of knowledge there is a perceiver, a thing perceived, and a perception. The first represents a person capable of seeing, the second an object to be seen, and the third the activity of the mind in seeing. Now, Kant denied the possibility of knowing the object in itself, and the mind that beholds the object in itself, and contended that, in knowing a tree, we really know nothing beyond the appearance of it in perception.

8. Professor Clifford said, "The object is a set of

changes in my consciousness, and not of anything out of it." Upon the basis of Kant's theory of knowledge Fichte declared: "There is nothing lasting either within me or without me, but everywhere ceaseless change. I know nothing whatever of any other being, and nothing of myself. There is no being. I myself know absolutely nothing, and I am nothing. Images exist. They alone are, and they know themselves after the manner of images, images which by images depend upon images. I myself am one of these images; indeed, I am not even this, but merely a confused image of these images. So reality becomes a mysterious dream, without life as an object or intellect as the subject of this dream, which itself depends solely upon a dream." Thus by Clifford and Fichte, we have Kant's theory of knowledge reduced to its last analysis; one denied the reality of the object perceived, and the other, denying both, regarded perceptions as images flitting by, without there being anything before which they flit. Kant, Fichte and Clifford, in thinking after this fashion, failed to recognize that the outside reality of any grade of fact, whether material, human or divine, is not settled by the intellect, but by the will. The intellect can only compare, contrast and combine the data brought within the enclosure of the mind by sense-perceptions, self-perceptions and religious perceptions. By itself alone it can never determine whether the different levels of existence from which the various orders of perception bring reports are

objectively real or not. If man had no gifts beyond those of perception and intellect, if he had no wants, no fears, no hopes, other than such as seeing and thinking can satisfy, it would never occur to him to ask whether the perceptions his intellectual wheel-work used up in grinding out general ideals came from any actual world, or man or God, or whether they were generated within the confines of the brain itself.

9. If our conceptions, when tested by the will in practical life, answer to action so as not to bring intellectual confusion and actual failure, we may know they are scientific. Reason constructs the universe of thought out of sensations, and if man were not under the necessity of acting as well as thinking, he might take his mental world for science. But he has a practical life to live, and is, therefore, under the necessity of daily testing his thought world by translating it into outside fact. The invisible intellectual machinery works far down beneath the surface, reducing separate impressions to general propositions. The conclusions reached may appear to be consistent, the one with the other, and with the facts upon which they are based, but not until the thinker steps outside the hidden domain of thought into the hard exterior world of tangible fact and begins to put his conclusions into practice, is he able to determine their scientific value. The alchemists for ages continued to devise schemes by abstract logical processes with a view to finding in the elements of nature the elixir of life,

and the philosopher's stone, but the outside order smashed their mental traps as soon as they set them. Ptolemy conceived a program of the heavens with the earth in the centre of the solar system, and tried to get it worked out in the skies, but all the stars in their courses fought against it and destroyed it. Copernicus was more successful, because he deduced his system from a study of the heavens, and hence it stood the practical test and was, therefore, scientific. We proceed exactly upon the same lines to determine what the religion of science is that we follow to find out what the stars of science or the atoms of science are. When our knowledge of the planets is such that we can verify the truth of it in sailing our ships, we may know we have found the stars of science. When our knowledge of the molecules is such that we can verify the truth of it in cooking our food and mixing our medicines, we may know that we have discovered the atoms of science. When our knowledge of religion is such that we can verify the truth of it in living our spiritual life completely, continuously and triumphantly, we may know that we have found the religion of science.

10. Perceptions and mental processes are confined within the limits of the personal self. We have no intuitions of things, except as they are presented to us and used for data to build up general ideas within us. The intellect can only compare, contrast and combine the impressions of sense. It is when, therefore, man passes from thinking into

acting that he is able to measure the practical value of his ideas. Clear cut, consistent mental propositions thoroughly match the needs of the intellect. But man needs food and must eat; he needs protection and must find raiment and a shelter; alone he is impotent, he must come into relations with others of his kind. He cannot encase himself within the confines of his consciousness and give himself up to nothing beside, watching his intellectual machinery thresh out the wheat of general ideas from the straw of separate impressions. The world around him with all that is upon it is in a perpetual whirl. He must move or be run over. He must act or be destroyed. He cannot house within himself and lock up the products of his thought, however fair and beautiful they may appear to himself to be. He must reproduce them. He must plant his mental seed corn with a view to future crops. He must sow his ideas in the plantation of the world. He must hold his place in the rushing, mixed procession of which he forms a part.

Hence, besides his intellect to turn out thought, he must use desire and will to translate his mental conceptions into action. As soon as they visualize themselves and stand before him in the form and colour of fact, he is able to determine whether they are in harmony with the universe or not. When he launches his mental ships on the real storm-tossed ocean, if they successfully outride the waves, he and all the world may know that they are seaworthy. When Count Rumford con-

verted his theory of heat into the tireless wheels of toil, every poor man on earth knew that it was scientific. When Cyrus W. Field turned his theory into a cable of steel under the Atlantic, all the world knew that it was scientific, because an idea Mr. Field had assumed to be true, when put to the practical test, did, in fact, act as though it were true.

The way of history is strewn with the mental debris of theories, once assumed to be true, but which would not act, when put to the practical test, as though they were true, and hence were thrown aside and left as so much litter along the path of progress. The records of mankind are largely taken up with the accounts of social, political, moral, religious and mechanical theories, which at one time or another were assumed to be true, but which failed to work in practice. All our verifiable knowledge, whether of the world, or man, or God, is such as passed muster with the intellect and afterwards stood the test also of the will and the practical life. It may be said that whatever the human intellect from any basis of fact has assumed to be true, that when put to the test by the will and the practical life did, in fact, act in universal experience, and so continue to act as though it were true, is science. If this were not so, our intellectual world of nature and man and God would be illusions. We only know they are not illusions because we can practice them without being discomfited, baffled and thrown back into our private

realms of imagination with the sad understanding with ourselves that no rails are laid in the world of fact to fit the mental engines we run out from our world of thought to move over them into the uttermost parts of the earth.

11. Whatever is assumed to be true in the realm of matter and motion that uniformly answers to act as though it were true may be put down as physical science. If it is assumed that hydrogen and oxygen in certain proportions can be turned into the compound called water, and if upon action in accordance with the formula H_2 O water results, it may be known that the assumption is scientific. If it is assumed to be true that one atom of hydrogen will combine with one of chlorine to form hydrochloric acid, and action upon the assumption in accordance with the formula HCL results in hydrochloric acid, then it may be known that the assumption conformed to reality and is scientific. If from certain calculations it is assumed to be true that there will be an eclipse of the sun at a particular hour on a particular day twenty-five years in the future, and if the action of the sun on that day answers exactly to the assumption, then it may be known to be scientific. It has been inferred for a long time that all solid substances are permeated by a mysterious, colourless, odourless, intangible substance called ether. Heinrich Hertz discovered that ether not only carried waves of heat, light and colour, but also electric vibrations. But the discovery of Hertz had not been put to the

practical test until Marconi on his father's farm in Italy put up a transmitting pole on one side of a garden and a receiving pole on the other, and actually sent a message from one to the other. "Hertz caught the etheric waves on a wire hoop and saw the answering sparks jump across the unjoined ends," but this satisfied his own mind, without impressing or convincing the multitudes. Marconi, however, demonstrated that the assumption as to the nature of ether answered to act, and now we have knowledge of the fact that messages have been sent across the Atlantic by means of ether vibrations. Hence this item of our knowledge of ether is scientific. It is certain and verifiable. The thing assumed to be true about it uniformly answers to act as though it were true, and hence conforms to conditions by which all items of science are established.

It would be easy to assume that world-wide commerce would be impossible, if all men were inveterate liars and conscienceless thieves, and beyond doubt prove the truth of it. Hence, to say that trade relations are based upon honesty and truthfulness is scientific, because the statement is sustained by the facts of practical commerce. To say that social existence would be impossible, if all men practically and violently hated one another and never missed a chance to bite and devour one another, would be as scientific as to say that a thing cannot be both white and black at the same time, or as to say it could not be red hot and zero-

cold at the same time. We repeat, therefore, that whatever is assumed to be true in the realm of thoughts, ideas, conceptions, sensations, feelings and emotions that uniformly answers to act as though it were true, is scientific. If we assume it to be true that God is good, that He is on the side of human progress towards ideal morality, and that if our will sets itself on the side of His goodness, we will rise in the scale of existence, and if upon so acting we do, in fact, find ourselves rising from a lower to a higher level of life, we know that our assumption is scientific. If we assume it to be true that God is against what is base and mean, and that if our wills choose what is evil, we will fall to a lower level than that of which we are capable, and find upon actually choosing what is bad we do, in fact, fall to a lower level of life, then we may know that our assumption was scientific.

12. A science of religion is as possible as a science of the outside world or a science of the inside self. Hume held that our perceptions of an inside self were nothing more than impressions which passed in a continual flow and really came from no self, because he denied there was any for them to come from. So the materialists would deny that religious perceptions are true reports of any infinite spiritual being seeking to get into communication with us. No one with the history of the race before his mind can deny that religious intuitions are as common as cognitions of the outside world, or of the inside self. The question of the

significance and value of the different perceptions is the one we have to settle. We get our religious science exactly as we get our science of the material world, and of the individual self. Knowledge never reaches the degree of certainty necessary to make it a science until it is tested by the will and the action of the practical life. Impressions might continue to come up before the reason forever from the world or self or God, and these might be converted into conceptions, but they would never amount to science until they were tested through practice. Sensations come in from the tangible world, and reason reacts upon them and builds up an ideal world that seems to correspond to the world from which the sensations come, but there is no possible way of determining this except by action.

Watt perceived the steam in the teakettle lifting the lid. His reason reacted upon the intuition. He conceived the idea of an engine with a furnace and a boiler so arranged as to utilize power for driving the machine along rails laid on a road-bed for purposes of transportation. This whole contrivance was completed in his mind. Not a person, we will suppose, knew anything of the marvellous device he had ideally worked out for the transportation of freight and passengers. He might have given wings to his imagination and belted in thought the planet with his railway tracks, and sent flying along them great fire-charged six-drivers. He might have called together a vast

audience of intelligent people and proclaimed in magnificent language the world he saw transformed and revolutionized by the iron chariots he had built in the shops of his imagery.

This would have doubtless been interesting, but it was not science. It lacked the practical test. It was all intellectual and theoretical. But when the powers of the will and of the practical life were called into coöperation with the conceptions of the reason, and when the ideal tracks were actually turned into iron ones, and the ideal engine was transmuted into a tangible one, and when the actual engine moved over the actual tracks, then everybody was ready to admit that the whole mental movement preceding the results into which it was worked out was scientific. It was scientific because it stood the test to which it was subjected by the will and the practical life. It was scientific because it conformed to the laws of the universe. It was scientific because it was not only true to Watt, as he saw it in his imagination, but was true to all men, as they saw it expressed and doing work. It was scientific because it not only answered to thought, it answered to act. It was scientific because while coming down from the mental clouds made up of fancy and emotion, it was capable of making its way through the outside world of earth. It was scientific because something assumed to be true by the inventor proved, in fact, to be true in practice.

13. The tests which knowledge, built out of

sense-perceptions, must meet in order to be called science are exactly the same that knowledge, from religious perceptions, must meet to be called science. No knowledge is science unless it can stand the test of the practical life. And all knowledge is science, whether made from sense-perceptions, self-perceptions or religious perceptions, that can measure up to the tests of the practical life. In saying this, it is meant that knowledge formed of perceptions from any level of existence that can meet the wear and tear of the stress of the hard workaday world of storm and change and death shows itself thereby to be universally valid. Such knowledge vindicates itself as being in conformity with the real nature of things and perfectly adapted, like a well-built ship, to sail any sea and weather any storm. St. Augustine, up to the age of twenty-eight years, tells us that he was utterly godless and wicked. His good mother, Monnica, had prayed for him constantly, and had given her son careful religious training. Augustine had religious perceptions, both of his own wickedness and of the willingness of God to forgive him. These came up before his reason and were converted into conceptions, but they were not acted upon. They were like the pictures of a kaleidoscope, appearing but to fade away. In utter disgust with himself, he felt at length that he could proceed in a life of willful sin no longer.

Opening the Bible at random to read the first verse that met his eye, he saw the words of St. Paul

in the thirteenth verse and thirteenth chapter of Romans: "Not in a chambering and wantonness," etc., and then he made up his mind to act on his knowledge. The very moment he did this, the windows of heaven were opened and a flood of light and inspiration and joy came into his soul, which revolutionized his life. He was lifted from the very depths of despair and guilt to the heights of self-mastery and thrilling hope. By action, by the exercise of the will in surrender to a higher power. his theoretical knowledge of God reached the degree of certainty that made it science. As surely as Watt turned his theoretical knowledge into science by the action which started his engine, so certainly did Augustine change his intellectual knowledge into science by the action which made him a new man.

Some will contend that the science reached by Augustine through action is not, like that reached by Watt through action, valid for all men. But it is. Augustine by his work and writing after conversion determined the direction of religious history for a thousand years. He changed the ecclesiastical and doctrinal conditions of his age. He arrested and destroyed the teachings of the Donatists and the Pelagians. Watt's engine affected the surface conditions of modern life, while Augustine's work affected the interior conditions of the soul. It is harder to change and direct the emotions of the human spirit than to cut down mountains for a railroad track, or to forge the molecules of iron into a steam engine. The practical effect of Augustine's

work in the history of the human race is greater and profounder than that wrought by the steam engine. He made his theoretical knowledge science by the use of the only method any knowledge can be made into science, that is, by the test of action. He assumed that the lessons his mother had taught him, affirmed by the religious perceptions of his own mind, were true and acted upon them and found as the result that his whole life came up from a degraded level of impotence and contradiction into harmony with his surroundings and into consonance with the laws of the universe. His mental machinery, which had been at work before conversion pouring out reflections on one side from intuitions coming in from the other without any aim, now with the help of the will began to work with a purpose. His life became significant. He faced a new future. All things presented to him a different aspect. Other reasons for existence than he had ever felt before were recognized. A new sun shone in the heavens. All the heavenly hosts seemed to have a look of kindly interest and a welcome for him. Through the coming years he saw the outlines of a growing career. The infinite transformation had been brought about by the exercise of the will acting in line with the intimations of his spiritual intuitions. His entire intellectual output after that became of untold value because through the work of the will it was sent into universal circulation.

Down through fifteen hundred changing, de-

structive years it has come to us. "The Confessions" through all time will teach that action is the secret of making religious science out of theoretical knowledge. "The City of God" will forever bear witness to the truth that a city, built on the intuitions of God with which the will coöperates, outlasts a city like imperial Rome, built on the intuitions of sense. If answering to act on the part of material things assumed to be true as though they were true constitutes physical science, why does it not follow that answering to act on the part of spiritual things assumed to be true as though they were true constitutes religious science? Are we to be driven to accept the doctrine that there is nothing but mud and such animated existence as can make tracks in it? Are we to conclude that there is nothing except matter and motion forever rising and falling in space? Can we not observe and describe the uniform sequences and coexistences of thoughts, ideas, conceptions, sensations, feelings, emotions, out of which civilization has grown as well as we can observe and describe the movements of matter and force, out of which the material world has grown? Are we to resolve thought back into brain molecules before we can treat it scientifically? Is thought nothing more than the exhalation of brain atoms, as vapour is the exhalation of river atoms? This cannot be, for the exhalation of river atoms is but a more sublimated form of the river. But thought cannot be any refined form of brain particles.

V

Religion of Science Implied in the Everlasting Search for God

V

RELIGION OF SCIENCE IMPLIED IN THE EVERLASTING SEARCH FOR GOD

MAN as invariably finds something in the facts that he faces out of which to make religion for his soul as he finds something in them out of which to make knowledge for his intelligence, or food for his hunger. He has never known how to get along without religion any more than he has known how to get along without food for his body. All forms of life front the same universe and severally deal with it according to their capacity to receive its raw material and turn it in the direction of their various grades of endowment. The hydroids build coral islands at the bottom of creation, and men build cities like London at the top. The difference between the lower and upper centres of population measures the distance between the simplest and the most complex orders of life.

The establishments the zoophytes erect against the tides of the ocean are composed of carbonate of lime the tiny labourers extract from the water. The part of the universe they can grasp and use is very limited. Outside of accumulating the means of subsistence, their activity is confined to appropriating from the waves the particles that float, and packing them into reefs that stand.

1. But all classes of workers, from structureless bits of protoplasm engaged in building sea-forests to men engaged in building Egyptian pyramids, employ their powers in organizing the different levels of existence into the forms of their life. The grade of work turned out determines the rank of the workers.

We know what the shell forms of life are by the chalk cliffs they build. We know what the sponges are by the cities they erect. The rank of the bee is fixed by its cell and the merchandise with which it stores it. The level of the beaver is settled by the dam it throws across the river. Every living thing under heaven advertises its height of being by what it can make out of what it can find in nature. In the character of its work we see the fullness of its endowment.

Man, like the rest of living creatures, takes his place in the scale of existence by what he can do with what he can find in the world about him. At the beginning of his life on the planet, man was not as well furnished for making his way as the crawling, swimming, walking, flying forms of existence below him. They had instinct, well developed from the first; he had reason, capsulate in his life, but hidden beneath the surface of his being. They had varying capacities for doing the work before them already developed in their claws and fins and beaks and tails and wings, while he was under the necessity of learning by slow and painful processes of discipline what he could find and what he could

do. They came into life from the great technological school of nature already graduated for business; he came a stranger to everything he met. The bee was ready to make as good honey as it could ever turn out as soon as it could fly. The beaver was ready to arrest water with as good a dam as it would ever know how to build as soon as it could walk. Every grade of life below the human knew exactly at the start where everything was to which it was related. It knew how to open every door that shut from itself what it wanted. Man stood like an ignoramus in a museum.

All living things under him had the advantage of him. They were acquainted with the premises. Birds were singing in the trees, finding their food, building their nests, feeding their young and using the sky to fly in as if the whole earth belonged to them. The fish were just as perfectly at home in the sea, playing amid its depths, taking the water for their comfort and support. Between the birds finding their native home in the air above him, and the fish sailing the seas as their liquid dwelling-place below him, he stood on the earth along with other living creatures, a palpitating specimen of pitiful weakness and helplessness. To him the surrounding fullness seemed to offer no special items of food or clothing or shelter, and no particular line of work in which he could find for himself a career.

2. Every other animal had his food and his function prepared for him. He seemed to be the

only one whose place was not down on the program. In the scheme of nature it appeared that ample provision had been made for all performers from brachiopods to monkeys, but he did not appear to arrive on the stage until after all parts of the play had been assigned.

There is not in all history a compound of dust and loneliness so pathetic as that represented by the first human being. The universe he faced appeared to be organized to destroy him. The weather was against him, the wild beasts were inimical to him, and nothing appeared disposed to lean towards him in friendship and good will.

But having arrived in the midst of scenes where everything puzzled him and opposed him, the only alternative open to him was either to vacate standing room, or vindicate his right to breathe and live. Though the odds were against him, he took his stand and began his career. How to obtain the means of physical existence engaged his attention, and when we contrast what he eats and what he wears and the mansions he houses himself in to-day with the food and raiment and shelter he used in the beginning, we are able to form some idea of the infinite distance between him and the rest of the animal creation with which he began his history on earth. The zoophytes are back there where they were in the morning of the world, extracting lime from sea water to use in building submarine cities. The bees are back there sucking sweets from flowers to use in making honey. The beavers

are back there manipulating mud with their tails to use in their work of masonry. The lower animals began with every endowment they possess today and stay where they started.

Man began with nothing, except powers packed away so deeply in his nature that he did not know he had them, and has gradually discovered them and learned how to use them in making his way onward and upward in the conquest of all things. Starting at the foot, he has spelled his way to the head of the class. From being the weakest he has become the strongest. Step by step he has climbed from the bottom to the top of creation. The elements and forces that threatened to crush him he has mastered, and subjected to his service. He has put all history under his hat and made himself the trustee of the earth and its affairs. He administers upon all terrestrial interests, and turns all the meaning the world has in the direction of his intelligence and heart and will.

3. Animated protoplasm demonstrates that the lime was made for it by getting it and piling it into reefs. The bee demonstrates that sweets were made for it by getting them to fill his cell. Man demonstrates that all things were made for him by getting them to build up his commerce, his law, his literature, his art and his religion. He has learned to turn the raw material of sea and sky and soil with all the thought they embody into the forms of his own life. He has made the whole world friendly by making it human. He has made the earth his own

by making it a garden. He has made the ether his by forcing it to transmit his ideas. He has made the cataracts his by transmuting their power into light and heat. He has made the whole sum of things his by learning to sweep with his fingers its entire keyboard and to make all the combinations necessary to bring to his soul all the riches of melody lodged in it from the beginning of time.

"We scatter the mists that enclose us,
Till the seas are ours and the lands,
Till the quivering ether knows us
And carries our quick commands.
From the blaze of the sun's bright glory
We sift each ray of light —
We steal from the stars their story
Across the dark spaces of night."

4. Life in all its forms finds creation responsive to its every grade of faculty. The outside order never plays false with any form of animate existence. It answers to the call of the amœba at the bottom of the scale with exactly what it reaches for. Whatever the sponges call for to make up the walls of their palaces, they get. If the swallow calls for adobe to build its nest, it gets it. Inferior levels of life need little and call for little, but whatever they ask for the universe hands them. The response is always according to the call. Pearls are never cast before swine, because they do not ask for anything but corn. The scheme of nature is adjusted to meet on its own plane the demands of every order of life. There has never

been a species of existence but found the outside system of things matching its wants with the precise object necessary to satisfy it.

Man is not confined by instinct to any particular round of the outside order. He is not limited in structure to any particular side of it. The tiger is made for the jungles, the whale for the ocean and the eagle for the sky. All living things, except him, are tethered to some particular patch of land or water or atmosphere. His structure corresponds to the constitution of things. At the beginning he had no home anywhere, but he has slowly domesticated himself in all that he perceives, and now finds a home everywhere. The seven stars are located within the confines of his plantation. He weighs the constellations in his balances. He associates with the wheeling heavens and learns their secrets. He moves amid the suns, counting their number and analyzing their contents, their interpreter and master. Nothing is foreign to him, nothing is without but is represented by something within. The scheme of outside things is met by the scheme of his inside intelligence. The eternal purpose moved up from particle and spicule, through plant and polyp and quadruped, expressing itself all the way in limited and meagre forms of life, but waited until the topmost stage was reached and then emptied the whole content and meaning and sweep of itself in the life of man. He became the measure of all things. Towering above all, his life furnished the standpoint from which to

determine the precise rank of all. As the climax of the divine process, he is not only the heir of all things, but also the interpreter and interpretation of all.

Nature does not know itself. The self-consciousness of the infinite mind repeats itself in the self-consciousness of finite mind.

5. The last born of the old order and the first born of the new, the finite child of the infinite God reaches out to take what the universe has to give him. He seeks food and clothing and shelter. He has no instinct to guide him ; he has reason which is hidden away in the recesses of his interior life. But impelled by a sense of need, he faces nature and contends for something to eat and something to wear and a place of refuge from the outside elements. In the struggle with external forces the powers of reason begin to disclose themselves. The materials to satisfy the demands of his physical wants were abundant, but nature could only give him the things he came rationally prepared to take away. The needs of the elephant were supplied as naturally as light matches the eye. The world that huge animal found was no school to it. It could teach it nothing. It was born with all training necessary to fit it for the sphere it had to fill. It was a senior in the college of nature without having to study. The first one that ever put its big foot down on earth found for itself as good food as the last. Man from the beginning was ideally and essentially related

to nature, but the inside and outside ends of the relationship were not brought together. The environing storehouse was packed with things for the whole of him, as well as with honey for the whole of the bee, but the doors were closed, and unlike the bee that carried in its proboscis the key to unlock the heart of every flower, the key to open the supplies he needed was hidden away in his understanding. But gradually he has learned to enter all the halls and chambers and to climb all the stairways of the vast mansion of nature. In finding the wonders of the world, he has discovered the wonders of himself.

The constitution of the sum of things beyond him corresponds to the structure of the rational self within him. He has learned at last to do, by means of his reason, with the entire nature of things what the lower animals, by means of instinct, do with different parts of it. With plows and hoes and rakes and mowers and reapers, implements provided by the reason, he goes as unerringly to his food in the fields as the zoophytes go to their lime in the water. With gins and spindles and looms and needles and sewing-machines, devices constructed by the intelligence, he goes as unfailingly to his raiment as wild geese go to winter resorts in cold weather. With axes and sawmills and picks and shovels and chisels, tools invented by the imagination, he goes as straight to materials for his shelter as brachiopods go to the mud in the sea for their shells.

6. Man not only goes to nature for bread, he asks for knowledge. He not only calls for raiment, he seeks ideas. He not only needs a house to live in, he needs a system of knowledge to think in. So he began asking questions. He was curious to know what things meant. Storms, lightning, thunder, sunsets, cold, heat, skies, clouds, changing seasons, growing trees, blooming meadows, birth, pain, sickness and death provoked his wonder. But the mind he brought to question facts was in its infancy, hence the answers he received were childish. He could get knowledge no fuller than was the development of his understanding. Truth was for him as food was for him, but enlarged capacity to receive either was lacking. He fashioned his mythologies, and for a time took them for the answers the nature of things was giving to his questions. Mythology was not the union of the mind with reality, but was the misleading light the imagination kindled within itself in its attempts to grasp the truth of reality. In mythology we see what the human mind thought of nature, man and God before it had been trained and disciplined in the knowledge of itself and the use of itself by long intimate association with the facts as they are. Mythology was only so many coloured flames thrown into the heavens of intelligence by the contact of facts with ignorance. After the mind had been educated for thousands of years in the school of facts, it called upon the earth for its history, and found the planet ready to answer with geology.

There is nothing in the earth to-day that was not in it when man first made it his dwelling-place. It was ready to respond to him with all the law and order and truth with which it answers him now, but he was like a child in the kindergarten and could not understand it. Suns and oceans and winds and hunger and pain and relations with others of his kind became his teachers. He has learned slowly, and at great cost, but he has learned surely. He has moved up through pain, but he has steadily ascended. His footprints have been red with the blood of sacrifice, but he has constantly moved onward.

7. Man has found the world a difficult proposition to compass with his understanding, but century by century he has seen it yield up one secret after another, until at length he has come to feel that it is all knowable. The universe is no longer foreign to him. It answers to his reason with what it has to give him as completely as the sea answers to the instinct of the zoophyte with what it has to give it. The nature of things has not deceived him any more than it has deceived the lowlier denizens of the earth. When addressed intelligently and patiently, it responds to his questions with answers that are universally valid, and verifiable in experience. His reason is infinitely more than all the instincts of the lower forms of life put together, because it enables him to do immeasurably more with the whole of nature for his physical well-being than they can do with limited parts of it for theirs.

8. Besides something to eat and something to think, man seeks something to worship. He calls for bread, he calls for knowledge, he calls for God. He no sooner began his search for food and knowledge than he began the search for religion. But he knew as little about the soul for which he sought religion as about the mind for which he sought knowledge, or as about the body for which he sought food. He came to the facts of the universe as poorly furnished to take away the material they had for religion as to take away what they had to offer for knowledge or raiment. Nevertheless, he found something from the beginning out of which to get his shelter, his food and his religion. He has always been as religious as he has been physical or mental. He saw something that appealed to the religious element in him in the very thing that appealed also to his need for ideas and for bread. Nature from the first was a storehouse to feed his body, and a library to feed his mind, and a temple to feed his spirit. His religion was poor, but it was up to the style of his bread and his learning.

"In all ages
Every human heart is human,
Even in savage bosoms
There are longings, yearnings, strivings,
For the good they comprehend not;
Feeble hands and helpless,
Groping blindly in the darkness,
Touch God's right hand in that darkness,
And are lifted up and strengthened."

One might just as well think contemptuously of the bone at which the primitive man gnawed, or the cave in which he slept, or the crude ideas that circulated through his mind, as of the shell-god before which he bowed in worship. The bone was a prophecy of the coming market; the cave was an adumbration of the coming dwelling-place; the crude ideas pointed towards coming science; and the spirit that bowed before the shell was reaching out for the coming religion.

Man did not begin life in an amply furnished grocery store, nor in a well-equipped dwelling-place, nor in a richly endowed college, nor in a Cologne cathedral. He began it in a wilderness on the wild revolving earth; but he began it in the image of God and has used the years of all history to find his commerce, his home, his science and his religion. The half of commerce and homes and science and religion was wrapped in the constitution of the first man; the other half of them was in the facts outside of him. Commerce did not create the demand for things supplied by it; the demand created commerce. Homes did not develop the demand for shelter; the demand developed homes. Science did not call out the desire for accurate knowledge; the desire created science. Priests and Bibles and temples did not create religion; religion created them. Harps and violins and pianos and organs did not create the harmonic sense; the harmonic sense created them. Honey did not create the instinct for sweets in bees; the

instinct created honey. Coral reefs did not create the capacity for finding lime; the capacity created the reefs. Destroy all beef markets and mills, and human nature will rebuild them. Burn down all dwelling-places, and human nature will replace them. Obliterate all science, and human nature will reorganize it. Banish from the haunts of men every priest, put beneath the sea every Bible, pull down every temple, and human nature will ordain new priests, lift under the sky new temples, and God will inspire it to write a new Bible.

Suppose every observatory from which students survey the heavens were pulled down, every professor of astronomy removed from all contact with men, all books on astronomy burned, every reference to the subject taken out of literature and the whole discussion ruled out by law for a generation, then it would follow that the race would be without any knowledge of the stars. But in the course of the centuries the observatories would be rebuilt, the books would be rewritten, the professors would be reappointed and the whole science of the firmament would be reorganized, and when reproduced, would be exactly the same as those destroyed. The facts being permanent, and the thought they embody being permanent and forever the same, the science made from a study of them at one time will necessarily be the same as that made from a study of them at another time. Celestial facts are as permanent as the nature of man and of God, and when the thought in them is

found, it can be converted into science as verifiable and valid for all men as is the science of the revolving skies.

The bottom of the grocery store is hunger; the foundation of the dry-goods establishment is need for raiment; the real support of the school is the desire to know; and the basis of every place of worship on earth is the sense of dependence in man upon an unseen power to which he feels himself related and responsible. Man can no more outgrow religion than he can outgrow himself. Where food is left out the body is starved; where knowledge is left out the mind is starved; and where religion is left out the spirit is starved. The religious nature is as much an essential and integral part of man as is the physical or the mental. Extract from human life the religious tincture with which it is impregnated and you leave it colourless and spiritless. Take the religious element from human nature and you take the Pyramids out of Egypt, the Tabernacle out of Israel, the Temple out of Jerusalem, the Parthenon out of Greece, and the Cathedrals out of Europe.

9. Cut out of the human mind the religious idea with which it is saturated and you take the Vedic hymns out of Hindu literature, the Zend-Avesta out of Persian literature, the Path to Virtue out of Buddhistic literature, the Koran out of Arabian literature, and the Holy Scriptures out of the literature of Christendom. Make an incision in human thought deep enough and wide-reaching enough to

remove every evidence of the presence of religious feeling and you reduce humanity to a barren Sahara of animated, individuated points lying flat and desolate and impotent on the earth. If man had no eyes there might be light, but he could never see it. If he had no ears there might be sound, but he could never hear it. If he had no æsthetic sense there might be beauty, but he could never appreciate it. If he had no intelligence there might be relations, but he could never know them, and if he had no religious sense there might be a God, but he could never find Him.

We must remember that religion is to the whole of man what vision is to the eye, what hearing is to the ear, what breathing is to the lungs, what knowledge is to the intellect and what morality is to the will. Religion is the stairway up which man climbs to the Source of his being. It is the way over which the child walks to the Father's house. It is the road from the finite to the infinite, from weakness to strength, from despair to hope, from turmoil to peace, from sin to holiness, from the local to the universal, from night to day, from time to eternity, from earth to heaven. Religion is the badge of man's kinship to the King of kings. It is the dictionary in which he finds the definition of his being. It is the song that falls into his soul from those who miss him in the everlasting home. It is the peal of the bells from the steeples in the City of God. It is the door in the sky through which he is to pass from his prison to his freedom.

It is the vision of the morning-lit land in which he is to dwell when the days of his pilgrimage are over. It is the music the waters are beating from the shores of those who cry no more. It is the fragrance from the flowers that bloom on the hills of eternal day. It is the picture of the spirit's everlasting mansion gleaming in the light of a sun that never sinks. It is the view of the river of life flowing amid gardens whose flowers never fade, and by homes that are never darkened by the shadow of death. It is the sight of the immortal sea over which the soul sailed from eternity to time, and back over which it will voyage again when the days of its exile are over.

10. For thousands of years man lived in the very presence of every equipment he needed for his physical and social well-being, but he failed, until within recent years, to find it, because he sought to understand the material facts around him through theories spun out of his imagination, rather than through such as could be obtained by the study of the facts themselves.

He fails just as sadly to find the truth stored away for him in religious facts, because he continues to approach them for the most part with conceptions spun out of his imagination, rather than with ideas formed in the mind from a patient study of the religious facts themselves. To illustrate what is meant, let us consider one of the self-devised mediæval theories with which he has approached man himself in whom is contained one-half of the facts

of religion. The working conception of man was that he was not a child of God essentially because created in His image, but became a child of his Father by something he did or was required to do. If a sinner, he was not a child in rebellion; he was not a child at all. He was a hopeless wanderer, an orphan without father or mother, an outcast with nothing left him but to eke out a miserable existence in the outlying regions upon which Satan had established his kingdom. The image of God, according to this view, was not inwrought in the very constitution of man; it was more like a cloak to be put aside when he chose to leave the Father's house for a season of riotous living in a far country. Why it was that the Spirit of the Father continued to seek the child and to find something in the wanderer to appeal to, with the image of God, the badge of relationship to the Father, relinquished and left behind, it did not occur to the leaders to ask. Nor did it occur to them to remember that if man ceased to be a child of God by transgressing His law, he was able then by an act of his to disrupt and annul an act of the Creator who breathed into him the breath of life when he became a living soul with the image of God stamped in the very fibres of his being. The colours with which he was lighted were eternally set in the structure of his life. Even the fires of hell can never burn them out.

11. It was not thought that forever and ever, anywhere and everywhere, man will continue to be a child of God. If lost because of willful, sinful

persistence in the ways of evil, he will be a lost child of God. If saved because of faithful compliance with divine conditions of eternal blessedness, he will be a redeemed child of God. It is true that the power of choice was an awful and perilous prerogative, but it will not do to claim that this invests man with the capacity to do away with and leave behind him the very constitution of his personality. That is his birthright and inevitable inheritance to all eternity, whether he pursues his unending career with the redeemed in heaven or with the permanently disobedient in outer darkness. That man is a sinful being all history testifies, but he did not drop out of himself by sinning. He disrupted the unity of himself as a personal spirit in harmony with God by falling into phases of himself as body and mind. But broken and fragmentary and impotent as he came to be by his disobedience, he never lost the ideal framework and lineaments with which God created him. He lost the power of restoring himself, as divided, to himself, as a spiritual whole, again in communion with God without divine aid, but he never lost out of his life the touch and colour of his Father's image. If he had lost this by his sin, then the first man's disobedience would have eternally bankrupted the human race, for there would have been nothing left in the centre of his soul to which his heavenly Father could any more appeal.

12. The fathers of the Church based the doctrine of man upon the fact that he was an animal, and,

CENTRAL RESERVE

as such, inherited the acquired characters of his parents. They failed to recognize the truth that man is essentially and constitutionally spirit, that the animal element in him is temporal and passing and perishing, while the spiritual element in him is eternal and abiding and divine. As an animal, he does come down from his ancestors, and were he nothing more, would continue to live on the animal level as his parents did. Looked at from this point of view, his kingdom would be on a level with that of the lion, or the tiger, or the monkey, who, through all the ages, have inherited and transmitted to their offspring their animality.

But it will not do to apply this view to man, for it conceals the fact that spiritual life implies relations to other than the physical environment. It conceals the fact that man as spirit reacts on the spiritual reality that encompasses him, and that each individual is a new beginning. Each new elephant is an old elephant duplicated and repeated, and hence elephants keep to the elephant level throughout all time and never rise above it or advance. Modern monkeys are nothing more than new editions of old monkeys. There is nothing more in the squirrel of to-day than there was in the first squirrel that ever climbed a tree. Squirrelhood is the same nimble, sportive, animated activity throughout. It comes to us from the past, but on a straight, level line of descent. The movement of man through the ages, however, has been upward, and upward, because being a

self-conscious, self-determining, self-active spirit, made in the image of God, he has been reacting throughout his entire earthly career upon the infinite, self-conscious, self-determining, self-active Spirit by which he is environed.

The poet sings:

"Each day is a fresh beginning,"

but God tells us in the structure of our being that each child is a fresh beginning.

13. Professor Henry Jones, of the University of Glasgow, in an article entitled, "The Working Faith of a Social Reformer," says the poor law inspector of Glasgow, Scotland, sends every year to different orphans' homes numbers of little children found in the streets, picked up selling newspapers between the knees of drunkards in public houses. On being asked how far these children, born almost entirely of the worst parents, suffered from their inheritance, his startling reply was:

"Provided you get them young enough, they cannot be said to suffer at all from this cause."

He supported this statement by statistics which showed that from 630 children sent out and kept under close observation for years, only twenty-three turned out badly. The ones who failed to make good citizens did not reach the homes early enough.

Dr. Thomas J. Barnardo, believing that God's image was in every human being, and that every child properly trained, faithfully instructed and

spiritually environed would grow into a good and useful man or woman, rescued from the streets of English cities 60,000 waif children and educated them intellectually, religiously and practically, and had the happiness to know before he died that only two per cent. of them proved to be failures.

The careers of plants and animals are determined for them by the habits, traits and characteristics of their ancestors, but children, being essentially spirits and not animals, have their careers determined for them, not by what they receive from their parents at birth, but by the training they receive from home and school and church and social relation after birth.

Aristotle taught the great truth that the real nature of a thing is not what it is at the beginning, but what it is after the idea of its nature is fully developed and realized. When Christ took little children up in His arms and blessed them and said, "Of such is the kingdom of heaven," He was thinking of them as they essentially and potentially are. He saw in them the raw material of the spiritual world that under grace and training are to people the kingdom of heaven. He taught by blessing the children that they are the most significant and valuable assets on earth, for if brought to Him and trained to grow up into Him, their living Head, every one of them would constitute a vital member of His body.

Every child that comes into the world is born into the kingdom of heaven, just as every child in

the American Republic is born into the United States. But while the child is born into the union, the union is not born into him, and never gets into him, until through home and school and social relation, it is made over to him. At the first, the nation he is born into is outside of him, and only gets inside of him by a process of action and reaction between the interior self and the exterior facts of national government, law, order, literature, art and life. When he gradually appropriates, digests and assimilates the elements of the outside political order, then he becomes its embodiment and living representative and expression. Then he becomes the state individualized, epitomized, alive and breathing.

So it is that the eternal Christian order, into which the child is born, is at the first outside of him and never gets inside until through training in prayer, faith, Bible reading, catechism and the Gospel it is made over to him, and by him is chosen, appropriated, digested and assimilated. Then the spiritual order that was outside of him becomes the kingdom of heaven inside of him. Then he is not only in Christ, as all men who live and move and have their being are, but Christ is in him as the chosen law and climate of his interior self.

The mediæval theologians sent down their conceptions of childhood ready-made out of their imaginations, while those who think after the fashion of the scientific method deduce their theories from a study of the breathing facts of young life. Ac-

cording to the mediæval view, the kingdom of heaven could be made over to elect children only, while according to the theory deduced from a study of the breathing facts of young life the kingdom of heaven can be made over to all children. Every child is as capable of receiving its religious estate as it is of receiving its intellectual, its political, its social, or its commercial.

14. Let us consider further the self-devised theological conception with which man was accustomed to come to the consideration of God from the time of Augustine to that of John Wesley. His idea was that by the decree of God for the manifestation of His glory some men and angels are predestined to everlasting life, and others are foredoomed to everlasting death. His theory was that God, by eternal and immutable counsel, hath once for all determined both whom He would admit to salvation and whom He would leave to destruction. He held that this counsel was founded completely on His gratuitous mercy, totally irrespective of human merit; that those left to destruction were not given over to eternal torment because of their wrong-doing, nor were those chosen to eternal blessedness selected because of any foresight of faith or good works on their part. According to the theory, God was anxious to maintain both His mercy and His justice. So through the power of His grace He forced elected sinners to come to terms of forgiveness that they might share His mercy and sustain His glory, while the non-elect

sinners who were just as promising specimens of humanity as the ones chosen were left to writhe forever in hell and thus sustain His justice. According to some of the old fathers, one of the highest and keenest joys reserved for the saints in glory would be to lean over the ramparts of heaven and watch the sinners rise and fall and alternate between agony and despair in a seething lake of boiling fire. Such a continual exhibition of perpetual heartrending pain, it was thought, would add depth and zest to the happiness of the redeemed.

15. With the conception of man that was accepted, and with the conception of God that held Him to be loving and considerate in His relation to the elected part of the race, while merciless, indifferent, and heartless to the non-elect, we can readily see that the working theories of even religious men were as completely turned from the truth as it is in man and God, as the old theories of caloric were turned from the real truth of heat, or as the old theories of the stars were turned from the real nature of the heavens. Theories of nature, man and God were formed without reference to the facts, material, human or divine.

The facts of religion are as indubitable and self-evident as the facts of nature. They disclose relations, and, therefore, contain thought as clear and distinct as that found in material facts. They have not yielded up their contents as completely as have the facts of nature, because they have not been approached by the scientific method.

16. Religion itself is a compound reality, made up of elements one-half of which are human and the other half divine. The human elements of religion are:

(1) A sense of dependence in man upon an unseen power higher than himself and other than himself, yet related to himself. This sense of helplessness in the presence of invisible but enduring forces grows out of the activity of imagination and affection, combined with the constant and insistent agency of the conscience. It is more than the mere sense of dependence, such as the primitive man feels upon the boat he is using to cross the river, or upon the cave he is using to protect him from the storm. It is a feeling of inadequacy and weakness in the presence of a mysterious power the things about him only serve to represent and advertise. He feels himself invested round not simply by the trees, but by a strange something or some one back of them, of which they bring him intimations. This vast and awful something speaks to him out of the storm. He hears its voice in the thunder. He beholds its face in the burning sun. He sees its fury in the lightning. He feels its placid moods mirrored in the beautiful moon. It sleeps under the rocks; it flows in the river; it stands in the mountains and sings in the waterfalls. It roars in the lion, flies in the bird, blooms in the flower and resides in the deep shade of the forests. All nature is alive with it. Whatever the something is that confronts him and looks at

him and speaks to him from out the inside of animate and inanimate objects, the primitive man feels he is known by it and approved or condemned by it, and that upon it he is dependent for his well-being. There is a vague nebulous sense within him that his interest will be best served by getting on good terms with it.

17. (2) Coupled with a sense of dependence and relationship, we find in man as man, from the savage to the civilized saint, the sense of obligation and responsibility to an unseen power. He prostrates himself before it; he prays to it; he sacrifices to it; he lifts up altars and bows before them to worship it. Everlastingly and universally his conviction is he must please or placate or propitiate the unseen mystery upon which he feels himself dependent and to which he feels himself responsible. The primitive man, and man through all stages of his progress, is ever engaged in bringing about an atonement between himself and the power that encompasses him.

"Creeds change,
All outward forms
Recast themselves.
Sacred groves, temples and churches
Rise and rot and fall.
Races and nations
And the various tongues of men
Come and go and are
Recorded, numbered,
And forgotten in the repetition
And the drift
Of many ages.

All outward circumstances
May be different,
But there lives no man,
Nor ever lived one,
Who, in the silence of his heart,
Feeling his need
Has not cried out,
Shaping some prayer
To the unchanging God."

18. The divine elements of religion are:

(1) The revelation the unseen One makes of Himself through nature. From the beginning of time outside objects and forces have united to form a sort of literature through which some great being was uttering itself or Himself.

What meaning the mystery back of things was trying to make known through mountain and grove and river and sky the primitive man was not able to determine, but that his imagination and emotion and conscience were deeply stirred by the interpretation he did put upon their significance to him, no one doubts. His religion, crude and grotesque as it was, bears witness to what he felt the power back of all things was trying to say to him. He saw in the bird an idea from the unseen One that provoked this religious feeling. The stars above him, the forests around him, the waters beneath him were to him so many great languages filled with ideas expressed by One upon whom he was dependent, and to whom he was responsible. He differed from the modern student of nature in that he only felt that things had a meaning, while the

scientist to-day knows in many instances exactly what the meaning is. He saw packages in which he felt something was wrapped up, while the modern man has untied the bundles and found out what their contents are. He saw the alphabet of creation, but had not learned the names of the letters, nor how to put them together in words. Even Nietzsche, who seemingly found delight in overturning every accepted philosophic and religious doctrine, had insight enough to see that man is a perpetual Becoming. He declared that "man awakens for himself an interest, a response, a hope, almost a confidence that something important is about to happen, that something is in preparation, that man . . . is an interact, a bridge, a great promise." This has undoubtedly been true of man always. The savage was the civilized man before starting to school. He was Darwin thousands of years before the naturalist lived. He was man before he had learned to count and read and write and cipher.

He was devout before he had learned to say:

"As feel the flowers the sun in heaven,
But sky and sunlight never see,
So feel I Thee, O God, my God,
Thy dateless noontide hid from me.
As touch the buds the blessed rain,
But rain and rainbow never see,
So touch I God in bliss or pain,
His far vast rainbow hid from me.
Orion, moon and sun and bow,
Amaze a sky unseen by me.
God's wheeling heaven is there I know,
Although its arch I cannot see."

19. He was the crude forerunner of Whittier before he had advanced sufficiently to write the beautiful prayer:

"So sometimes comes to soul and sense
The feeling which is evidence,
That very near about us lies
The realm of spiritual mysteries,
The sphere of the supernal powers
Impinges on this world of ours.
The low and dark horizon lifts
To light, the scenic terror shifts,
The breath of a diviner air
Blows down the answer to a prayer
That all sorrow, pain and doubt,
A great compassion clasps about."

He was Wordsworth before he had grown to be poet enough to say:

"And I have felt
A presence that disturbs me with the joy
Of elevated thoughts, a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean, and the living air,
And in the blue sky and in the mind of man,
A motion and a spirit that impels
All thinking things, all objects of all thought,
And rolls through all things."

20. (2) The second divine element of religion is the revelation God makes of Himself in the constitution of man. The world without him was no greater mystery to the primitive man than was the world within him, but both contained for him, he

felt, the revelation of a power higher than himself. He had within the half of everything out of which civilization has been built, but it was an undeveloped half. He was under the necessity of finding and developing the outside half of the means of subsistence, knowledge and religion, by opening up within himself, through struggle and trial and experiment, the inside half. At the beginning both the inside and the outside were unknown. History is the record of the gradual coming together of these two unknowns into the unity of catholic religion, verifiable knowledge and modern civilization.

The revelation God makes of Himself through the structure of human life has been converted into those great religions we know as Brahminism, Zoroastrianism, Confucianism and Buddhism. Unlike the fetishists, who find the divine in nature, the leaders of these faiths found God making Himself known in the moral and mental constitution of man. In Brahminism, the best example of pantheism, man sought for God in thought ; in Zoroastrianism, Confucianism and Buddhism he sought for God in conscience.

No one disputes the human facts of religion, and even to Herbert Spencer, in whose esteem God was unknowable, they revealed themselves in almost as complete a sense as professors of religion are accustomed to think God has revealed Himself.

On page 66 of "First Principles," Mr. Spencer declares :

" Common sense asserts the existence of a reality.

Objective science proves that this reality cannot be what we think it. Subjective science shows why we cannot think of it as it is, and yet are compelled to think of it as existing; and in this assertion of a reality, utterly inscrutable in nature, religion finds an assertion essentially coinciding with her own. We are obliged to regard every phenomenon as a manifestation of some power by which we are acted upon. Though omnipresence is unthinkable, yet as experience discloses no bounds to the diffusion of phenomena, we are unable to think of limits to the presence of this power, while the criticisms of science teach us that this power is incomprehensible."

Analyze that sentence. Read it carefully and you will find that Mr. Spencer knows there is an ultimate reality. Then it has being. It acts upon us. Then he gives to it the attribute of action. All phenomena are manifestations of it. Then it has power. All phenomena are manifestations of this inscrutable power by which we are acted upon. Then it has causal energy. "We are unable to think of limits to the presence of this power." Here he gives it omnipresence. Of his inscrutable, unknowable something, then, he knows that it has being, power, activity, causal energy and omnipresence. Precisely along the same lines of reasoning by which Mr. Spencer deduces these attributes of what he calls his Unknowable, the Christian, who accepts the God revealed in the Bible, might deduce the wisdom, mercy, justice and

truth of God. There are equally as much data furnished for the deduction of wisdom, justice, mercy and truth as for being, power, activity, causal energy and omnipresence.

21. The synthetic philosophy of Mr. Spencer consists of two parts, (1) "The Unknown and Unknowable"; (2) "The Known and Knowable." He devotes a small space to the treatment of the Unknown and Unknowable, but out of this dark void he manages to draw a magnificent universe.

It is remarkable how a man, who knew so little in the beginning of his system, knew so much at the end of it. How from such a limited and meagre absolute creed he managed to find such a long and comprehensive relative one. He says: "Amid the mysteries which grow the more mysterious the more they are thought about, there will remain the one absolute certainty that man stands in the presence of an infinite and inscrutable energy from which all things proceed." But this Unknown Mr. Spencer places in relation to the known. He says that all phenomena are manifestations of the Unknown. It would seem, therefore, that in so far as the Unknown manifested itself in things known, it managed to make itself known. Think of the Unknown manifesting itself, uttering itself, clothing itself in form and see if you can resist coming to the conclusion that in manifesting itself and in uttering itself, the Unknown has come to be so far known. You can know no more of a man than you are able to learn from the manifestations he

makes of himself. But we have an understanding with ourselves that we know men from their deeds, from their speech, from their achievements, from the outward expressions they make of themselves, and we know nothing of men except that which we learn in this way. Nothing ever proceeds from the Unknowable except what was in it, and whatever comes out of it helps us to judge of it, and form an opinion of its nature and resources. If mind comes out of the Unknowable as we see it in man, then we know that mind was in the Unknowable before it appeared in man. There is no element in any legitimate conclusion that was not in the premise. There is no element in any tree that was not in the germ of it, and as, according to Mr. Spencer, all that is proceeds from the Unknowable, we have a right to conclude that the whole manifest universe was all in the Unknowable before it came out and proceeded to pass before our eyes and provoke us to ask questions about it.

22. God we know through the thought He has expressed in the things He has made. Our knowledge of Him is verifiable and universally valid, for we can put it to the test in practical life.

By the reaction of intelligence upon the perceptions he has of nature, man knows that he finds the thought put into it by the divine mind, because he can reëmbody it in outward forms. Man shares in the mind of God, or else he could not read what He has written. He knows God in so far as the thought expressed in nature and humanity enables

him to recognize what He thinks. When the reason reacts upon the perceptions the reader has of the printed page, and gets ideas of David Copperfield, he may be sure that he knows just as much of Dickens as he has revealed of his thought in his story.

When nature and man are correctly understood, we can look through them directly into the mind of the Author of both. Through "Ivanhoe," "The Heart of Midlothian" and "Kenilworth" we look into the mind of Sir Walter Scott, and at the same time into our own mind. God's two great books are man and nature, and through them we can know just as much of His nature as He reveals in them. The knowledge of the Author of these great volumes is gained after exactly the same fashion followed to get knowledge of their contents. When we open the book of nature to learn of it, we have intuitions of its Author. All knowledge begins with intuitions, and in all ages along with the perceptions man has had of nature and of himself, he has had cognitions of God.

The reason is equally as capable of putting together into general ideas and conceptions the separate perceptions the mind has of God, as it is of forming general ideas of the separate perceptions it has of the world, or of man. To deny that He exists, when man in all ages and climates and in all stages of culture has been perceiving Him, is to accuse the human race of mental derangement. And if humanity is crazy in that it has perpetually

believed itself to have had a vision of the Creator, when, in fact, there has been no divine Being to see, then its denials or affirmations are without the slightest value.

23. Man's knowledge of God is valid and verifiable and, therefore, scientific, because he was endowed in a finite sense with the very attributes of God, and not only forms ideas out of the impressions received from matter, thus getting into his mind the thought of the Almighty, but he is capable of embodying his ideas again in the very matter from which he received them. Handel hears the music that is tangled and mixed in the roar of the sea, or the howling of the winds, or in the fury of the hurricane. He organizes them in his mind; he reduces them to the measure and rhythm of melody. Then he goes to the organ and sends them forth in vibrations finer and more thrilling than they ever were before. The music the winds strike from the trees, and the waters call from the rocks, and the seas beat out of the cliffs, and the lightnings split from the forests is not to be compared with that God makes through man. When the notes fall out of the seas and the shores and the woods and the minerals into the responsive, susceptible souls of the masters and are so grasped by them that they know how to sport with them and throw them back in oratorios and anthems, then we have the raw material of music, as God prepared it, clarified and refined in consciousness and multiplied in depth and height by all the joy and

sorrow, hope and despair, love and tragedy of human history. Then it is that even great battles, in which men's souls were tried, with their triumphs and their defeats, are converted into song. The infinite scale of harmony takes finite form in the human soul and the thunder of the world's trouble is converted into the undulations of melody. Through the violin a consecrated son of toil, like Stradivarius, translates the pain and anguish of life into hymns of victory. Paderewski stations a piano between himself and the flaming suns and demonstrates his kinship with the Author of all harmony. By means of his instruments, he describes to the eyes, called ears, the vast landscapes, the deep valleys, the wondrous mountains, stretching away to infinity within the immeasurable territory of the human spirit.

24. Man can crave æsthetic joys no sweeter than he can find in an atmosphere beaten into rhythmic agitation by the waves which roll in from the spiritual depths of the great composers.

When measured pulsations from seas of harmony rise around his anxious heart, he ceases to argue and to question. He gives himself up to the direction the current is moving. He finds himself floating out from shores where he was confined and tempted and almost ruined and voyaging towards the country of his ideals and his everlasting home. For the time being he is caught and quieted and soothed, and while he knows he is drifting, yet his conscience approves, for he is comforted by the

conviction that he is moving towards no dangerous rocks or unfriendly coast, but straight towards the harbour he was ordained to enter from before the foundation of the world. He feels that:

"Somewhere in the distant purple seas,
A Golden isle is gleaming;
Where anchor all the argosies
We send out in our dreaming,"

as

"The tidal wave of deeper souls,
Into our inmost being rolls,
And lifts us unawares
Out of all menial cares."

25. It is a long way from the tom-tom of the savage to the piano of the modern performer, and from the incantations of the Indian snake dance to the measured precision of the orchestra, but a comparison of this kind shows how far man has travelled since he began to breathe, and how completely he has brought with him the whole realm of sound. The savage with his crude device for agitating the atmosphere was Beethoven before he learned to manipulate the instrument from which to strike the Ninth Symphony. This noble expression of harmony we call divine, because we cannot resist the impression that from the Source of all melody it came.

"Our souls are organ pipes of divers stops,
And various pitch; each, with its proper notes
Thrilling beneath the selfsame breath of God,
Though poor alone, yet joined are harmony."

26. That sublime form of beauty to which is given the name of architecture illustrates the difference between marble lying in the mountains and the same material after man has lifted it into the Parthenon. The temple of virtue on the Acropolis at Athens is but the externalization of the spirit of Phidias. It stood in him before it ever took the form of stone, and the form of it was in the eternal mind before it was in the mind of Phidias. That pile of magnificence on the Rhine at Cologne is but a majestic expression of the soul of Meister Gerard, who designed it six hundred and thirty years before it was completed. He saw it more than half a thousand years before Emperor William and the sovereign princes of the German Empire did on the day of its dedication in 1880. But the form of the Cologne cathedral was in the infinite mind before it was ever in the thought of Meister Gerard.

"Take all in a word: the truth in God's breast
Lies trace for trace upon ours imprest;
Though He is so bright and we are so dim,
We are made in His image to witness Him."

Thus the things man makes when at his best

"Are copies of the things in heaven, more close,
More clear, more near, more intricately linked,
More subtle than men guess."

Before the temple at Athens and the church at Cologne all minds surrender. Nothing can be con-

ceived finer in classic or Gothic architecture. They exhaust the subject they illustrate and embody.

Whether from the standpoint of the one or the other, each may be said to be an expression of the mind of God. For man, created in the image of God, whose mind is a finite copy of the mind of God, knows not and never can know better how to express himself in temples of stone made with hands.

27. When man is contemplated as the highway of the divine mind, through whose sensibility and reason and reproductive powers God is completing creation, we get a conception of him unspeakably great. Through him God sublimates and refines all material things. Through him rocks pass up into St. Peter's at Rome, colouring matter ascends into "The Transfiguration" of Raphael, sound is lifted into Haydn's "Creation," words are converted into Tennyson's "In Memoriam," iron is turned into mowers and reapers and steam-engines, and the planet is changed from a wilderness into a garden. And all this is owing to the fact that man, by means of intuition and reason, has organized the ideas of God into science, and then by the constructive powers of his mind has reëmbodied them in the objects of his creation. He not only receives the world into himself, he also sends it back from himself with his own image and superscription stamped upon it. He is not only a knower; he is also a creator. He not only perceives and conceives, he also reproduces and constructs. He knows and does in a finite way what

the Author of his being knows and does in an infinite way.

28. Travellers passing from Vienna to St. Petersburg change cars on the borders of Russia. This is made necessary by the difference in the gauge of the railway lines from those outside the empire. But when material objects, plants and animals arrive at the border line separating the kingdom of nature from the nature of man, they are not under the necessity of changing cars. Along the same highways of travel they pass over from one domain into the other. The constitution of the human mind corresponds to the constitution of nature, for both are expressions of the divine mind. Being one in their origin, when they come together they coalesce and coöperate in the reproduction of science, which is a revelation of God, being fashioned by our reason reacting upon the things of nature God has sent to stimulate it, and stir it to activity. Science, as universally valid and verifiable knowledge, is not created, but constructed by human intelligence out of the elements through which the Creator expresses His thought, as cloth is not created, but woven by the loom out of cotton produced in the fields. The house of knowledge the mind builds by reaction upon the timbers which compose it does not resemble the pile of mental lumber out of which it is fashioned. The raw material of the rational dwelling-place consists of sills and planks and rafters cut out of logs by the sawmill, but these do not become a

finished home until, by the activity of sensation and reason, they are lifted into the form of the architect's idea. When the house is completed it is not a photograph of the trees from which it is framed, but it must resemble the thought of a house contained in the universal mind that expressed itself through the forests and through the reason of man. If this were not true, man would be able to find more in his reason to convert into shelter from the storm than the mind back of all things provided for. A house is the result of a combination between the reason of man and the thought expressed in the groves. It is totally unlike the materials of which it is composed, but in so far as it is an expression of correct principles, the ideal form of it must be the same, both in the finite and infinite mind. If the universal mind repeats itself on a limited scale in the mind of man, then it must follow that whatever is true in the one is true in the other, and that whatever is beautiful in the one is beautiful in the other, and that whatever is good in the one is good in the other. It is not the world we see and hear and taste and touch that we translate into science, but it is the underlying thought expressed in it and through it. If it embodied no mind, we could not possibly have any science of it. The veritable knowledge we get by the reaction of sensation and reason on the objects of it is but the organization of the thought they contain into a system of truth in harmony with and identical with the reality of it.

29. The average man thinks the knowledge a botanist has of flowers in a garden is a literal copy of them as is the image of a plate of a photographer the literal copy of a man's face. There is as much difference between pinks and roses and lilies as they grow out of the ground and such as the sensation and the reason of the scientist reacts upon and replants in his imagination as there is between trees in the woods and houses on the streets. Blossoms without stimulate the senses of sight and smell and thus do the bare elements of the patch of beauty and fragrance become transplanted by the student of plants into thought. There could be no interior thought without the exterior facts, but one is as different from the other as is a brilliant Persian rug from wool on a sheep's back. The significance of science is found in the fact that it is the thought of God organized into human thought. It is sections of omniscience man has transferred into his own mind. When one thoroughly masters "The Critique of Pure Reason," he transplants from the words in which Kant embodied his conception of the universe the philosopher's idea into his own mind. If such a person could visualize his idea of the sum of things gained by a close study of "The Critique," it would be identical with that of the Königsberg thinker.

30. God creates the honeysuckle blossom through the honeysuckle bush. The plant is completely passive and interposes no obstacle in the way of the divine process of making that

radiant little item of the Southern woods. So, when man unconditionally consecrates himself to the divine thought expressed in nature, and to the divine will active in nature, and to the divine beauty decorating nature, and discovers them and repeats them, we may say that the objects in which they are reproduced are at the same time expressions of the divine and the human mind. It was the deep conviction of the old violin maker of Cremona, Antonio Stradivarius, that God chose him as an instrument through which to make violins. George Eliot represents him as being ridiculed by one of his neighbours because of his devotion to his work, and saying to him: "Thou art little more than a deft potter's wheel, Antonio, turning out work by mere necessity and lack of varied function." Stradivarius declares that God chose him to help Him. Then his neighbour asks: "What! were God at fault for violins, thou absent?" Stradivarius replies, "Yes; He were at fault for Stradivari's work." "My work is mine, and heresy or not, if my hand slacked, I should rob God—since He is fullest good—leaving a blank instead of violins." "'Tis God gives skill, but not without men's hands: He could not make Antonio Stradivari's violins without Antonio."

31. Those who, like Haeckel, deny the existence of God and claim that man is nothing but matter and motion and hold that man is of no more importance to the universe at large than an ant or the fly of the summer's day, teach that thought is a

function of material brain atoms. They look upon the brain as the organ in which thought is reproduced, just as the liver filters bile and certain glands of the body prepare salivary juices. In their esteem the brain digests impressions and converts them into thoughts, just as the nerves of the stomach digest nutritious substances and turn them into blood and muscle. Literature, art, science, morality and religion which are, according to this view, secreted by the mind, are on the same level as gastric juices, which are secreted by the stomach. Those who speak of thought as a function of the brain, in the sense that bile is the function of the liver, and gastric juice a function of the stomach, teach that thought is actually produced by the brain.

It cannot be that the thought we see embodied in civilization with all its institutions, laws, literature, art and science is only the exudation of brain atoms. It cannot be that material brain molecules secreted, as the liver secretes bile, the Pyramids, the temple of Diana, the statue of Moses, the paintings in the Sistine chapel, Handel's Messiah, the epistles of St. Paul, St. Augustine's City of God and Emerson's essays. The thought man has used to change the face of nature, to bridge its rivers, to tunnel its mountains, and to cross with iron rails its continents, has not been distilled out of perishing nerves, but has been discovered in the things God has made and transcribed into the human mind and embodied in the achievements of God's child.

"I have gone the whole round of creation : I saw and I spoke :
I, a work of God's hand for that purpose, received in my brain
And pronounced on the rest of His handiwork—returned Him again
His creation's approval or censure : I spoke as I saw ;
I report, as a man may of God's work—all's love, yet all's law.
Now I lay down the judgeship He lent me. Each faculty tasked
To perceive Him, has gained an abyss, where a dewdrop was asked.
Have I knowledge? confounded it shrivels at Wisdom laid bare.
Have I forethought? how purblind, how blank, to the Infinite Care !
Do I task my faculty highest, to image success?
I but open my eyes,—and perfection, no more and no less,
In the kind I imagined, full-fronts me, and God is seen God
In the star, in the stone, in the flesh, in the soul and the clod."

32. Prof. William James, in his little book on "Human Immortality," has shown that in the world of physical nature the reproductive function is not the only kind of function with which we are familiar. He shows that thought may not only be regarded as a function of the brain, as steam is a function of the teakettle, or as light is a function of the electric circuit, or as power is a function of the moving waterfall, but that the brain may be regarded as having a transmissive function in its relation to thought, as a prism has a transmissive

function in relation to light, and as the keys of an organ have a transmissive function in relation to sound. Light is not engendered in the prism; it is only transmitted and limited to a certain path and shape. Air is not produced in the organ; it is only transmitted through the pipes of it into harmonious sound. Professor James represents Kant as coming very close to the transmission theory in his idea of the function of the brain in relation to immortality. He held that the death of the body might indeed be the end of the sensational use of the mind, but only the beginning of the intellectual use. That the body "would thus be not the cause of our thinking, but merely a condition restrictive thereof, and, although essential to our sensuous and animal consciousness, it may be regarded as impeding our pure spiritual life."

Mr. Schiller, in "Riddles of the Sphinx," expresses the same idea. It is so important that the extracts given by Professor James in the notes to his "Human Immortality" are here quoted:

"Matter," he says, "is an admirably calculated machinery for regulating, limiting and restraining the consciousness which it encases. . . . If the material encasement be coarse and simple, as in the lower organisms, it permits only a little intelligence to permeate through it; if it is delicate and complex, it leaves more pores and exists, as it were, for the manifestations of consciousness . . . which permits us strange glimpses of a lucidity that divines the realities of the transcendent world.

And this gives the final answer to materialism; it consists in showing in detail . . . that materialism is a putting of the cart before the horse, which may be rectified by just inverting the connection between matter and consciousness. Matter is not that which produces consciousness, but that which limits it, and confines its intensity within certain limits; material organism does not construct consciousness out of arrangements of atoms, but contracts its manifestations within the sphere which it permits."

According to this view, "the lower is explained by the higher, matter by spirit, instead of vice versa, and thereby attains to an explanation which is ultimately tenable instead of one which is ultimately absurd."

The brain may be regarded as the organ of thought in the sense that the mind uses it as an instrument by means of which to think, but to hold that thought is produced in it and by it, and that consciousness is engendered in its interior depths, puts human credulity to a strain that it cannot endure.

33. Atoms, as we have seen in a former chapter, when invested with self-consciousness, self-determination and self-action, are capable of amazing achievements, but it were easy for atoms to build a planet in comparison with climbing to the inside of the human skull and there generating the mystery and immensity of human consciousness. Believers in God credit themselves with having some faith, but never in their highest moments of all-

conquering belief have they ever seen a time when they could accept a proposition like this. The materialists have gone too far; they have asked too much. It is not difficult to accept what Lowell says:

"Each day the world is born anew
For him who takes it rightly—
Rightly? that's simply! 'Tis to see
Some substance cast these shadows
Which we call life and history.
Simply? that's nobly! 'Tis to know
That God may still be met with,
Nor growing old, nor doth bestow
These senses fine, this brain aglow,
To grovel and forget with."

34. But it is simply impossible to believe in brain atoms, though endowed with the qualities of self-consciousness, self-determination and self-action, reckless enough to generate human consciousness capable, when produced, of destroying itself and the nerve elements that created it. It is impossible to believe that material molecules would generate a personality like Nicholas Ridley, who, in turn, could use the same molecules to think out a resolution consigning himself to the martyr's stake. Self-constituted and self-directed mental machinery would hardly turn out an individual capable of using the same wheelwork that brought him into being to burn himself up and his Creator, too. Think of atoms arranged in the head turning loose on the planet a glowing life like that of the Apostle Paul, who used them to write his epistles

and at length forces them to produce the conviction that leads him to have his head cut off. To accept this is about as reasonable as believing that the Mississippi River, after finding itself brewed out of the snow and the rain in the Rocky Mountains, turns back and uses the melted and the frozen water to generate the power of taking itself off the map of the United States. This is about as reasonable as would be the declaration that music, after getting itself into the air from the pianos and violins and flutes and drums of an orchestra, wheels about and forces the same instruments to measure off another multitude of wave currents in order to neutralize and destroy itself. The statement that the brain generates consciousness is not only irrational, but the wildest and most baseless speculation that a few scientific men ever attempted to hypnotize themselves into believing.

The pinch of dust once active in the brain of Shakespeare, now sleeping in the church at Stratford-on-Avon, did not create the wondrous mind through which he gave to the world his plays.

"Though Shakespeare's dust beneath our footsteps lies,
His spirit breathes amid his native skies;
With meaning won from him forever glows
Each air that England feels, and star it knows;
His whisper'd words from many a mother's voice
Can make her sleeping child in dreams rejoice,
And gleams from spheres he first conjoined to earth
Are blent with rays of each new morning's birth.

Amid the sights and tales of common things,
Leaf, flower and bird, and wars, and deaths of
kings,
Of shore, and sea, and nature's daily round,
Of life that toils and tombs that load the ground,
His visions mingle, swell, command, pace by,
And haunt with living presence heart and eye;
And tones from him by other bosoms caught,
Awaken flush and stir of mounting thought,
And the long sigh, and deep impassion'd thrill,
Rouse Custom's trance, and spur the faltering
will."

VI

Christ the Reason of the Universe

VI

CHRIST THE REASON OF THE UNIVERSE

THE human mind uses three words to shelter and house all its ideas. These are nature, man, and God. All ideas of the material universe are put into the word nature. All ideas of humanity are lodged in the word man. All ideas of the unseen, the infinite, the eternal, are domiciled in the word God.

The realms for which these terms stand are so vast and so difficult of access that the human race, after thousands of years of thought and effort, has been able only partially to explore and settle them.

So deep and abiding, however, has been the conviction that the different orders of existence denominated by these words are real, that ideas of them, as Kant has well said, have been the presuppositions of all thinking.

Ideas of the self, the not-self, and of the unity that transcends and includes the two are the necessary and fundamental preconditions of all thought. These ideas entered as strands into the thread of the first thought man ever had, and are found to be the constituent elements of the last thought of the most advanced philosopher. Without a self, of course no thought is possible. A self without a not-self finds nothing to think about. With a

self somewhere and a not-self somewhere else, bound by no unity of which the two are expressions, held together by no unity of which the two are correlatives, in this case also there could be no thought. A self utterly foreign to a not-self, a self with no origin common to a not-self, a self with absolutely nothing in it corresponding to anything in a not-self—could have no possible commerce the one with the other.

Relation between two things is the fundamental condition of commerce between them. Two dependent relatives are themselves the indisputable proof of an independent unity of origin and source. Man the self is dependent, and nature the not-self is dependent. History witnesses to constant and permanent relations between the two; hence, by the very necessities of thought we are driven to assume the reality of God, the unity upon which the two depend, and of whose thought the two are expressions. A chicken could make no scratches on the ground with its foot that man could read. A chicken puts no mind in the prints of its feet for the mind of man to interpret. Man can decipher the strange letters on an Egyptian obelisk because the letters embody mind, and mind common to all men. Man can read nature because it contains mind, and mind common to his own mind. Therefore the mind embodied in nature and the mind active in man can come together, because they both are expressions of one infinite mind.

As all thinking begins with ideas which presup-

pose the existence of nature, man and God, so all thinking continues, and will ever continue to carry in solution the same ideas. Mr. Spencer himself maintains that the infinite is the ultimate unity to which all things must be referred, and that the consciousness of it underlies all our knowledge, and of course he would admit that there could be no thought without the ideas of the objective world and of our own subjective life being presupposed. Hence it will be found that all problems which have come before the mind for solution have clustered about the ideas of nature, man and God.

Religion and philosophy in all ages have busied themselves about solving and explaining the mysteries which hang about the self, the not-self and the unity which includes the two.

1. The value of any religion or philosophy will be determined in the future by the solution which it gives to the problems which surround these fundamental ideas of human thought and experience. The philosophy or the religion that claims the problems which surround these realms to be insoluble will have no lasting place in the growing thought of the human race. The sure and steady progress made by ages of painstaking thought and consecrated living towards clearing things up have constantly deepened and widened the conviction among men that the problems brought before the mind by the words nature, man, and God, are not insoluble. As long as the search for gold in the Rocky Mountains is rewarded by some grains in the

ore, the search will be kept up till all the mountains are explored. Of nothing is there more settled and abiding conviction, among the people who live on the earth to-day, than of the fact that the search for truth in the past has been sufficiently rewarded to warrant men in keeping up the search. Thus, as never before, students are digging into the heart of the earth, observing its dips and upheavals; they are gazing into the heavens, counting its stars, photographing their faces, and analyzing their contents; they are travelling over the earth, observing man as the facts of him come to light in his commerce, his law, his crime, his insanity, and his enterprise; they are investigating the religious element in human nature, classifying its manifestations, its age-long search for the unseen, its craving for the infinite; and thus knowledge is increasing as never before. The boundaries of the known are being enlarged, and nothing is necessary to the enlargement of those boundaries forever but industry in the search for truth and loyalty to its increasing light.

2. While ideas of nature, man, and God; ideas of the not-self, the self, and of the unity that includes the two are presupposed in the first thought of the primitive man, it is not to be supposed that these ideas are consciously held, or held in any articulate or developed sense. At first they are inchoate, merely floating in the mind in a mixed and undifferentiated way.

As long as the ideas of nature, man and God,

which are the presuppositions of all thinking, are mixed in the mind without definition and without distinction, civilization is impossible. Confusion within will reappear as confusion without.

Not only must these factors of thought be defined and separated the one from the other, but each must receive its proper emphasis and hold the place in the mind to which its objective existence entitles it.

In the philosophy of India too much is made of God. The idea of Him is pressed to such illimitable and attenuated transcendence, that with equal truth anything or nothing can be predicated of Him.

In the system of Confucius too much is made of man. Ideas of the infinite above him and of the finite world below him are not clearly grasped or defined, and because of this man fails to find his proper place, and lives on in the world without the help that belongs to him from above or below.

In the thought of Henry Thomas Buckle the boundaries of nature are widened till but little room is left for man and God.

In the theory of Jean Jacques Rousseau man is emphasized to a point of independence out of all proportion to his dependent and relative nature.

In the English deism of the eighteenth century God was represented as what Carlyle calls an almighty clockmaker, the world as a machine, and men as so many atoms related to one another mechanically, like the grains of wheat in the same heap. In this system none of the factors of thought was suppressed. It failed because it did

not correspond to the real nature of the facts. No such a God and no such a world and no such men existed as English deism talked about.

3. In one respect, then, all religions and all philosophies are on a level. They all seek a solution to the problems which hang around the same facts.

They are all faced by the same nature, with its matter and its force; by the same man, with his weakness, his sorrow, his fear, his ignorance, his death; by the same great Being who surrounds and includes all things and who receives names from all peoples corresponding to their conceptions of Him. What man seeks and has always sought is such a philosophy or synthesis of the facts of nature, of man and of God, as harmonizes him with himself, with his world, and with the being he calls God. The conviction haunts him like the pulse-beats of his own heart that such a synthesis is for him. All history, all philosophy, and all religion witness to his age-long attempts to find such a synthesis, and to rest and work in it and through it.

We call Christ the reason of the universe because He brings to thought such a synthesis of nature, man and God as harmonizes human life with itself and with the facts of nature and God. Christianity is not a religion constructed by the human reason, but is such a religion as reason sees to be in line with the facts of existence. Man is a thinker and needs truth; he is under the necessity of acting

and needs law; he has a heart and needs something to love; he is weak and needs strength. But Christianity does not simply bring to man a system of truth, for he is more than a thinker; or a system of ethics, for he needs more than something to do; or a wealth of emotion, for he needs more than satisfaction for his heart; or inexhaustible supplies of strength, for he needs more than help in his weakness; these are brought, combined and harmonized in the unity of a perfect life. A separate system of truth, or a separate theory of ethics, or a separate supply of strength is not what man needs. His want can only be matched when these come together, arranged in the harmony of a complete life. Cosmology is not enough, anthropology is not enough, theology is not enough. What man needs is to find cosmology, anthropology and theology flowing in the blood and beating in the heart, and thinking in the mind, and acting in the will of a life like his own. He needs to see once the germs of hope and strength and aspiration which he feels in his own nature realized in a life lived under the same conditions with which he stands face to face. Theories he has found abounding in all poetry, philosophy and theology, his cry has been for the sight of one demonstration, not only thought out, but suffered out, willed out, lived out. Such a demonstration men believed they saw nearly two thousand years ago.

Whatever may be thought as to their probably being mistaken, one thing is conceded; the facts of

Christ's life and death and resurrection and ascension underlie Western civilization, and have been the potent factors in its upbuilding. If the men made a mistake who supposed they saw in Christ the fulfillment of all prophecy, the harmony of all truth, the perfection of all righteousness, the solution of all problems, and the sum of all beauty, then we think with perfect truth it may be said this is the most marvellous mistake in all history, for following the light of this mistake men have come to the most enlightened and rational civilization of ancient or modern times.

4. Christ owes the unrivalled place He holds today among the sons of men to the fact that He did not come simply explaining, or teaching, or philosophizing, or theorizing, or poetizing, but came solving the problems man saw in nature, in himself, and in God, by living them out.

The mysteries which men had sought to clear up by thinking, He cleared up by His living, and when the contradiction of sinners became so great He could proceed along the ordinary methods of living no further, He submitted himself to death, and arising from the grave gave to men the essence of all truth, the results of all righteousness, the fruits of all love, and the secret of all time and eternity.

The antithesis of the finite and the infinite which underlies all thought and life has, by the incarnation, its two terms united in the fact of a wondrous personality. By the incarnation the ideas which, according to Kant, are presupposed in all

thinking, come together and are harmonized in the concrete unity of an individual life. This lifts human knowledge from the poverty-stricken level to which the mechanical philosophers placed it to the permanence and dignity of an organic and everlasting reality. By the crucifixion, men are taught the secret of reciprocity, of association, and of universal brotherhood. This tragic event in the life of Christ helps men to see that they are to come together in associations and states by the death of the local, provincial, carnal, isolated self, and that the life of the Church or the state is not made up of the aggregation of a multitude of breathing, animated units, but of one life pulsating through all. Not of one life that swamps and swallows up the individual life, but rather that returns to each individual for the little life he gives up the great life of the whole. This meets the conditions of man's nature, for single, isolated, individual, unrelated, he is not human at all. He finds his own life only when he dies to his self-contained and self-included life. Each individual in a great city gets a larger life by conceding selfish, individual, local rights to the good of the whole, than he would if each had his own way and his own street. Life in a city would not be possible if each person did not concede some of the kind of rights a savage in the woods is supposed to have, for the common good and order of all. To undertake to live in a city with each man having his so-called rights, as a savage has in the woods, would

not result in freedom, but in chaos and death. The death of Jesus Christ teaches that the life of each man is to be consecrated to the public good. Because of His attempt to bring men into the order He saw as necessary to their well-being He was crucified.

By His incarnation Christ united the two terms found in the antithesis of an infinite past and a finite present. By His resurrection He united in a historic fact the two terms found in the antithesis of an infinite future and a finite present, and by His ascension He gave triumph and undying hope to life.

5. Let us now approach this question in a different way. When we look carefully into the matter we find that environments influence their objects, and objects in turn affect their environments. So events and their environments mutually influence one another. In this way we arrive at the conception of causality, and causality is a deeper fact than either time or space. In order that a cause may send a stream of influence over to an effect there must be space, and there must be time. But before a cause can express itself in an effect, it must separate the power by the aid of which it makes the expression from itself, and thus we are led to the insight of self-cause, self-separation and self-activity. A self-causative, self-active omnipotent energy is the deepest thing and the first thing in the universe. This is the principle which is presupposed in all causation, all time, all space and all

experience. Here we have the unity that includes the self and the not-self. Nor is this an abstract, barren, empty, sterile unity, corresponding to the transcendent, pure being of the Hindus. It is a dynamic, self-active, self-relative unity that includes within itself the wealth of all worlds, of all intelligence, of all life, and of all love. Being self-causative, it is the subject that causes and the object that is caused. Being self-active, it is cause and effect in a living, intelligent unity. The complete form of self-activity, self-causation, and self-relation is self-consciousness. Self-consciousness contains within itself the subject that thinks and the object that is thought and also the identity of subject and object in a living, intelligent personality.

But it has been in accordance with the conviction of all deep philosophy and theology that what an absolutely perfect being thinks must, because it is thought, exist. That is, with an absolutely perfect being thinking and willing are the same. If what an absolutely perfect being thought did not at the same time come to exist, then we would have him thinking one thing and willing another, or we would be under the necessity of supposing that he had thoughts or fancies that he did not realize.

It is also in accordance with the insight of the deepest philosophy and theology that the thought of an absolutely perfect being must be as absolute and perfect as the being who thinks it.

This is why the Hindus say that the world is

an illusion. They say that an absolutely perfect being could not produce an imperfect world. A world seems to be before them. It was not created by a perfect being. Hence its existence is not real. So their conception leads them to seek Nirvana, which as a state or condition is as near unconsciousness as it can be, not to be absolute annihilation. Christian philosophy and theology meet this necessity of thought by admitting that an absolutely perfect being does not directly create an imperfect world. In the New Testament Scriptures the Son or the second person in the Trinity is represented as creating the world. "The worlds were framed by the Word of God," St. John says: "In the beginning was the Word." "All things were made by Him." "He was in the world and the world was made by Him, and the world knew Him not." In the first verses of the Epistle to the Hebrews it is said that God "hath in these last days spoken to us by His Son . . . by whom also He made the worlds." It is the Son who is spoken of as "upholding all things by the word of His power."

6. In the absolute self-consciousness of God there are subject and object and the identity of subject and object in one divine personality. But it is necessary that what the absolute subject thinks must be, and must also be as perfect as the absolute subject. It is necessary also that the absolute subject and the absolute object must be one.

So in the divine self-consciousness the absolute subject is Father, and the thought of the Father,

or the absolute object, is the Son. But as the Son is as perfect as the Father, it is necessary that what He thinks must be also.

In God as Father the idea of transcendence is met, and thus we have the truth of monotheism; in God the Son, the idea of an indwelling God is met, and we have the truth of polytheism. In God the Spirit, the idea of God pervading the world is matched, and we have the truth of pantheism. Here we have a conception that enables us to hold on to the oneness of God and the trinity of God, without an abstract and barren monotheism from which nothing can come, or a polytheism that degrades God, or a pantheism that diffuses God to the obliteration of all distinctions.

Here we have a Trinity, not such as would be constituted by three judges in a court, or by three things imagined under sensible forms. The relations between three judges or three such sensible things would be mechanical and accidental, not absolute and essential. The Trinity of the Christian Church is not simply the aggregation of three individuals, or the unity of three mathematical points. The Trinity revealed in the Christian Scriptures is such as makes a concrete unity through and by means of difference. This Trinity makes a unity, the distinguishing feature of which is "fullness" and not emptiness. It is a Trinity constitutive of a real, experimental and knowable unity. God is revealed in the Scriptures as intelligence, life and love, and the living process of each

is triune. The terms of a self, whose living function is intelligence, are three: subject, object, and the organic identity of the two. The terms of such a self are necessarily three, and yet its nature is necessarily one.

7. If God is intelligent He is triune, because the process of intelligence is triune. There cannot be mind without self-consciousness and the object of the eternal self-consciousness is the eternal Logos, who is the full and complete expression of the eternal mind. But the eternal mind does not go into his own object, which is the Logos, without a return to himself as subject. It is only in the going out and the coming back that self-consciousness is complete. If the eternal mind were to go out from itself as subject to itself as object, and never return, it would not be conscious of itself as object or as subject. The movement of mind, whether infinite or finite, is as a process described, when we say it constantly goes out from itself and as constantly returns to itself. In this way continuity and identity are maintained. The whole act of self-consciousness is as a process eternally complete in a non-temporal now.

Time or space is not necessary to the complete act of self-consciousness.

If time or space were to come between the two terms of self-consciousness, the subject and the object, identity and personality would be forever destroyed. This is true of God and man. In so far as a finite person is self-conscious he lives in eter-

nity. Time and space condition events and objects but not self-consciousness. Self-consciousness is the living function of non-temporal and non-spatial spirit.

According to Kant, ideas of nature, man and God are presupposed in all thinking. A deeper truth is that the idea of a triune personal God is presupposed in all thinking. Herbert Spencer says: "Amid the mysteries which grow the more mysterious the more they are thought about, there will remain the one absolute certainty that man stands in the presence of an infinite and eternal energy from which all things proceed."

8. In Mr. Spencer's view, then, an infinite and eternal and inscrutable energy is the presupposition of all thinking. The view held by the Christian Church, that puts a personal and intelligent God where Mr. Spencer puts an inscrutable energy, is more rational, and more in line with the facts of existence. In this view we can get the world out of God without pantheism, and man out of God without polytheism, and man, self-asserting and fallen, back to God, in accordance with monotheism. This gives us a God of love, giving Himself in His Son, and coming back to Himself through the Spirit, with a redeemed race to share His love. This gives us an eternal procession with meaning and reason and purpose in it.

This furnishes us with a conception of God that accounts for the religious aspirations of the human race. We find men everywhere, in all ages and

under all climes, feeling after God. Man is religious to the bottom of him and to the top of him and to all intents and purposes of him. The religious grooves are those most deeply worn in his nature, and this is because he is more thoroughly religious than he is anything else. Looking at the mind of God passing out into the Son, or the second person in the Trinity, and then through the Son into man as the highest and last finite expression of divine thought, we are able to understand why he is religious. We see the fundamental structure of him, the invisible framework of him, the ideal plan and pattern of him is Christian. We see in him a divine potency, and the nature of the eternal Christ capsulate in his heart. Being the ultimate finite expression of the Son's thought, and being endowed with the universal nature of the Son, man is the highest thing under heaven next to God. Thus he is religious to the very roots and core of him. And the real function of man in all time, and through all eternity, is the realization and out-filling of the universal nature which he receives as the highest creation of the Triune God.

9. This view accounts for the irrepressible conviction which man has had in all his history that he is immortal, or capable of eternal growth. For immortality is nothing but everlasting growth and living progress. How can we account for the permanent, if sometimes vague, belief of his immortality, unless we suppose he possesses an infinite depth of root and resource? Did he not somehow

feel himself in connection with vital and infinite spiritual resources, the idea and hope of immortality would have perished out of his mind ages ago. As the highest expression of the thought of the Son of God, and as the recipient of the nature and spirit of the Son of God, we see that he has an infinite depth of derivation and an affluence of resource commensurate with the illimitable nature of God Himself. This fact of man's derivation is the only one large enough to account for the fact of his religious consciousness. St. Paul had a view of the truth when, in speaking of believers, he called them "heirs of God and joint heirs with Christ," and when, in writing to the Ephesians, he said again, "Till we all come . . . unto a perfect man, unto the measure of the stature of the fullness of Christ." How could one ever come to the measure of the stature of the fullness of Christ if he did not have the nature of Christ? A nature lower or inferior would not be susceptible of such measure of fullness.

This doctrine helps us again to account for the two poles of man's moral and intellectual consciousness. Human nature has a dual constitution. It is the unity of two principles, a principle of thought and will, and a principle of truth and right. As a physical being he is dual. The subjective side of his physical self is hunger, the objective side of his physical nature is food. Now before he can live as a physical being the hunger and the food must come together.

As an intellectual being he is dual: as a subject he is intellect, as an object he is truth. Before there can be intelligence and knowledge the intellect and truth must come together. As moral he is dual. As abstract will he is subject, and as abstract law he is object. Now, before he becomes a moral person the will and the law must come together. The objective side of man's physical nature is provided for him outside of himself in the food he eats. The objective side of man's intellectual nature is provided for outside of himself in the Holy Spirit, who is to guide into all truth.

The objective side of man's moral nature is provided for him outside of himself in the Holy Spirit, also, who discloses the law that is to fulfill all righteousness.

Now on his subjective side, man feels he is free, but on his objective side he feels he must obey. How is he to be free and obedient at the same time? When we remember that the nature of man is a reproduction of the nature of the Son of God, and that the Holy Spirit, proceeding from the Father and the Son, flows out into humanity to enlighten, to quicken, to convince of sin, and then to renew, to regenerate and to organize into the Christian Church, we shall see that the truth the Spirit presents to man's intellect is adapted to it as food is to his hunger, and that the law, which the Spirit stimulates and urges man to obey, is the law of his own nature. So that in thinking the truth into which the Spirit guides him, and in willing

the right to which the Spirit urges him, man is thinking his own truth and willing his own law—that is, he is thinking and willing in accordance with his own nature. Thus only in speaking truth and willing right is he free. Thinking other than what is right, he brings himself into subjection and finally into chaos.

10. The Holy Spirit is the personality who pervades and directs the destinies of the Christian Church. Hence man finds his universal, immortal, essential, spiritual and objective self represented in the Holy Spirit. In the Holy Spirit is the high, universal, corporate life of man. In living the life of the Spirit he lives the life of his nobler self.

This doctrine accounts for the order and gradual ascent from lower to higher we note in nature. We see atoms, minerals, plants, animals and men, going by regular steps from bottom to top. Forces are found on these separate planes adapted to the manipulation of the objects found on each. All this seems to be according to an order of thought. And so it is. The Son in thinking of Himself as eternally derived from the Father thought of Himself at first as pure passivity, as purely in His relation to the first person of the Trinity, and not as active and absolute at all. The movement of His thought was thus through all stages of imperfection, or finiteness, up to man, where His universal and active nature asserts itself in the creation of a being with a nature like His own, and thus in the image of God. On the lower planes of nature,

among atoms and minerals and plants and animals the work of the Holy Spirit is not recognized, because atoms, minerals, etc., are not conscious. The operation of the Spirit here is defined by such terms as gravity, chemical affinity, electricity, etc. When the plane of manhood is reached the presence of the Spirit is recognized as that of a personal and conscious presence. It is because of the presence of this all-pervading personal Spirit that each man recognizes the thoughts and deeds which go from his own life as right or wrong.

11. And in the last place this doctrine gives us the meaning of the struggle, conflict, pain, which are apparent everywhere throughout the realm of nature and human life. The optimism of Leibnitz and the pessimism of Schopenhauer had no foundation in the deep truth of things. When we consider the mind of God moving out through the Son into the finite world and into the Holy Spirit who fills and animates the finite world, and above the world organizes the Christian Church, we see the whole movement as a procession. This view of it makes it dynamic and living, not static and dead. While such a procession involves action, struggle, conflict, pain and anguish, it is all for a purpose. The groans of nature become birth pangs, and the conflict in the human world is incidental to the effort of nobler forms of life to get born. March winds are borne with more patience and resignation when it is remembered that they are incidental to the birth of summer.

The entrance of the divine procession into the limitations of time and space is advertised by the storm and stress, the ceaseless clash and strife which begins among the atoms. This struggle is kept up through all stages of organization, until when we reach the plane of human life it is expressed in cries and wails, in tragedies, epics, litanies, which become the most interesting part of human literature.

Into this struggle comes the Son of Man and Son of God. He meets it, endures it, and conquers it, and is crucified, and His crucifixion is the culmination of the process of trial and storm and strife, which began with the atoms and continued through the whole course of nature. When Christ comes up from the dead, then the truth of the ages gets defined, that through suffering and denial and crucifixion is the way to holiness and everlasting life. From thenceforth a redeemed humanity becomes the working hypothesis and the ideal of the race. Then it comes to be seen that the whole movement of God looks to the organization of the human race in Jesus Christ, the reason, the Logos, the plan, and the ideal framework of the universe.

VII

Christianity, the Religion of Science

VII

CHRISTIANITY, THE RELIGION OF SCIENCE

HUMAN nature houses no furnishment older than religion. The life man received from his Creator was shot through with religion. He was God's workmanship, in a sense, infinitely higher than the rest of creation. He alone of all organized life was created unto good works. Certain trees were ordained to produce apples; but the fruit they were intended to bear inevitably blushes at the tops of their limbs, so that its sweetness and beauty must be credited to nature and not to the trees.

Bees were ordained to make honey; but the sugar they find in the flowers was correlated with their instinct, so that their delicious enterprise was determined for them and not by them. Man was created unto good works just as truly as oaks were appointed to bring forth acorns; but he differs from the oaks in that he was not impelled by outside force to deal in the heavenly goods for which he was made. The bees are shut up by exterior pressure and interior structure to do the particular work for which their diminutive energies were formed; but man was placed at the head of creation and empowered by the gift of self-determination to choose his own career. His position was magnifi-

cent, but perilous, because the good works native to that glorious height were not necessarily a part of it, as apples are of trees and honey of bees. They were a part of it to his credit only, as he made them his by choosing them. The works man was ordained to perform were good before they were chosen, in the sense that gold in the heart of the mountains is valuable before it is dug from the mine. Both before passing current in either the moral or commercial realm must be mixed with volition and effort.

1. Man was created in Christ Jesus, who in the beginning was with God, and who was the Word without whom not anything was made. He came into being through the very Word that afterwards became flesh. Fashioned through the Word, whose glory we afterwards beheld full of grace and truth, we know the wondrous pattern of His life from the loom in which it was woven. A life made in the image of God, and mediated through Christ Jesus unto good works, necessarily came into existence wrapped round a plan and at a level no lower than the idea of the Mediator. Man, at the beginning, was not merely a bit of undifferentiated protoplasm thrown by the Cause of all things into the earthly environment. The meaning his life came to have was not stamped into it by the outside pressure of evolution, natural selection, and other external influences.

A great idea, freighted with the art, literature, religion, and enterprise of all the ages, informed

and irradiated the clay in which he was set up to housekeeping in the morning of history. The first man could not have come from the mind of God, the Source of all reason, through Jesus Christ, the Mediator of universal reason, without finding inwrought in the very fibres of his being a divine program of thought and volition and action. Had he been nothing more than a mixture of star dust and water accidentally conjoined so as to hit the secret of breathing, the problem would be to account for his finding the way to the top of creation without being invited by some interior message folded by his Maker in the centre of his soul. The problem would be to understand how he found the series of fortunate modifications through which he climbed upward without a type at the bottom of his life to modify. If he was not built round an idea, if no program of performance was hidden in his spirit, if no schedule of movement was concealed in his heart, then we must admit that the mud which first began palpitating manward is entitled to enormous credit for the vast distance it has put between itself and all other animated gravel. How it has managed to travel so far and reach a table-land of achievement so high without an idea to realize, without a type to follow, and without the embers of primeval fires burning in its depths and seeking to blaze through its heights is more than a mystery. It is a first-class miracle.

2. No one can understand how even the horse of modern times could have climbed to the stage of

perfection, illustrated by the fine animals in the blue grass regions of Kentucky, without following a type and without ascending as impelled by the idea around which its lowly life was built. But for the thought of the Creator, which clothed itself in the horse, man's friend among the animals might have turned out a tiger or a bear or an elephant. But for the unseen type, immanent in the protoplasm that moved horseward, no reason could be given why it might not just as well have gone lionward or camelward.

Interwoven with the protoplasmic germ of every tree's life and of every animal's life is an idea, and the process of creation is but the unfolding of these ideas or types or species into the marvellous literature of the vegetable and animal kingdoms. All the fine lines and shapes and colours seen in the plant and animal worlds were drawn from the original ideas around which they were fashioned by the Maker of all things. Nothing has come to be without thought and purpose. This is true, or else we are in a universe of chance and haphazard. We stand in the presence of creative and directive intelligence, or else

"We are no other than a moving row
Of magic shadow shapes that come and go
Round with this sun-illumined lantern held
In midnight by the Master of the show.

"Impotent pieces of the game he plays
Upon his checker-board of nights and days;
Hither and thither moves, and checks and slays,
And one by one back into the closet lays."

If there is no creative and directive intelligence guiding things, then the Master of the show in which we find ourselves is himself an inscrutable imbecile, and the sunless, starless closet in which he lays us when he slays us is the dungeon of rayless oblivion. To accept such a view, and to act on it universally, would turn the earth into a madhouse. With reason gone from the whole of things, no reason could be found in the parts of things. The ceaseless whirling of the globe would be without the slightest meaning; for though it furnish temporary shelter for fifteen hundred millions of human bipeds, no one could understand why such victimized, deluded, pulsating clods should be housed even for a few fleeting days.

3. Now, if all species of plants and animals are determined in their progress through the countless years by the types in which they are molded, are we to suppose that man, the highest expression of creative power, began his career without being charged with a definite idea that he was sent forth in storm and conflict and temptation and sacrifice to realize? The reality we are to seek, then, is the specific type at the bottom of each man's life. What is the pattern of him folded in the centre of his being? What is the immanent, teleological principle he has felt flowing in solution through his blood since he began to breathe? What is the perfect and universal idea with which the human species began to make history, and in the realization of which men find themselves, and in the denial of which they

lose themselves? Correct answers to these questions will solve for us the problem of religion and the problem of human existence.

St. Paul, a great thinker and a great saint, tells us in the First Epistle to the Corinthians, "There is one God, the Father, of whom are all things, and we unto Him; and one Lord Jesus Christ, through whom are all things, and we through Him." And in the Epistle to the Ephesians we are told: "He gave some, apostles; and some, prophets; and some, evangelists; and some, pastors and teachers; for the perfecting of the saints, for the work of the ministry, for the edifying of the body of Christ: till we all come in the unity of the faith, and of the knowledge of the Son of God, unto a perfect man, unto the measure of the stature of the fullness of Christ." Further, in the same Epistle, we are taught that by "speaking the truth in love, we are to grow up into Him in all things, which is the head, even Christ: from whom the whole body fitly joined together and compacted by that which every joint supplieth, according to the effectual working in the measure of every part, maketh increase of the body unto the edifying of itself in love." It is clear from these words that apostles, prophets, and evangelists were sent forth for the specific work of edifying or building the body of Christ.

It is evident that the building of the body of Christ is a process, and is to continue until all men of all nations come in the unity of the faith and the knowledge of the Son of God unto the

measure of the stature of a perfect man. We are taught here that men are to grow up into Christ, the head, so that as parts they will be joined together in Him and thus make one complete, organic, human, and divine whole. To reach the measure of the fullness of the perfect man, it is not only necessary that Christ enter into the parts, but that all the members be knit together into one body in Him. The raw material out of which this world-wide and age-long body is to be formed is found in the scattered, beaten, wretched, sinning individuals of the human race. This vast enterprise is so immense that its completion can only and fully be seen in the dispensation of the fullness of times. This is the fellowship of the mystery which, from the beginning of the world, hath been hid in God, who created all things by Jesus Christ. This is the mystery of God's will which He hath purposed in Himself, through Jesus Christ, to work out by gathering into one all things, both which are in heaven and which are on earth, even in Him. The apostles and prophets are to go forth, bringing together material from under all suns and building, with Jesus Christ Himself for the chief corner-stone. They are to frame the parts together, so that the whole building shall grow unto an holy temple in the Lord, and thus become the habitation of God through the Spirit. This sketch from the Scriptures sets forth the gradual growth of the body of Christ throughout all ages until the whole is perfected and made one by the inclusion of all the individual

members of humanity, and made alive through all the parts by the inflowing of the crucified, risen, and ascended life of the Lord Jesus Christ.

"Man as yet is being made, and ere the crowning Age of ages,
Shall not æon after æon pass and touch him into shape?"

"All about him shadow still; but, while the races flower and fade,
Prophet eyes may catch a glory slowly gaining on the shade,
Till the peoples all are one, and their voices blend in choric
Hallelujah to the Maker, 'It is finished! Man is made!'"

In the light of this magnificent conception, we are able to determine what the type, the idea, at the bottom of man's life is. It is nothing less than God's thought of each human being as both an individual and a member of an organic whole. God's thought of man is that he is both one and many. According to God's plan the race of man receives life in parts to live in a whole, as Browning declares:

"When I say 'you,' 'tis the common soul,
The collective, I mean; the race of man—
That receives life in parts to live in a whole,
And grow here, according to God's clear plan."

4. We know not only from the Scriptures, but also from the facts, that men are members one of

another. The human race, according to God's thought of it and according to the fact of it, is one body and hath many members, and all the members of the body, being many, are one body. The essential Christ, who in the beginning was called the Word (or the Logos), is the Eternal Centre of every man's life. He was, and is, the One through whom the many come into being, and He gives to each the qualities that make him an individual and also the collective relations that make him a part of a wondrous human whole. He is the type around which man's life was fashioned. He is the immutable, timeless substratum in man that impels every human spirit to seek in some way to transcend its local and limited earthly boundaries. He is the deathless verity that gives to human life its sense of significance. He is to all souls what gravitation is to all matter, that in them which urges them towards a common centre. He is the infinite root, from which the vine of humanity originally grew; and when the branches, by the misuse of freedom, turned earthward to their ruin instead of Godward to their invigoration, He appeared as the true vine growing from the same vital and spiritual infinitude of resource up into God, the Father, teaching that all the branches He found sprawling on the ground and trodden underfoot of wild beasts were intended for parts of the true vine and not to be cast forth and withered, to be gathered and burned in the fire.

Christ is the universal burning reality underly-

ing all religion. He is the truth at the bottom of Brahminism and Buddhism and Zoroastrianism, and Taoism, and every other heathenism under the sun. But for Him at the core of all human life, the peoples of the earth would have never sought the Lord, if haply they might feel after Him and find Him. Among Christian nations the implicit Christ at the centre of all life has found His way to expression in the lives of the saints through the regenerating power of the explicit, historic, and crucified Christ operating from the plain of history upon the thoughts and hearts and wills of men. Among heathen nations the implicit Christ is ceaselessly impelling pagan peoples towards religion; but so far have they wandered from the ideal Christ at the foundations of their lives that nothing less than the knowledge of the historic Christ—born, crucified, risen, ascended—is equal to the creative task of cleansing their thoughts, changing their hearts, and purifying their religions that they may become a part of the one, true, perfect, and absolute religion. The Christ of structure and constitution must, through the Christ of history, be made the Christ of faith and practice before heathen religions become the Christian religion.

5. St. Paul taught that men were essentially and ideally so completely bound together in one organic whole that the disobedience of one person made all the rest sinners, and that they were so thoroughly compacted into one whole that the obedience of the Type of all and the Mediator of all

provided a way for all to become righteous. The teaching of the Scriptures, therefore, is that humanity is not parcelled out into so many individual atoms, each bearing no more relation to the others than a grain of sand to the other agglomerated particles of the desert. It was originally created ideally one in Christ Jesus.

As the Parthenon stood complete in the mind of Phidias before it ever took form on the Acropolis at Athens, so God saw humanity as created in Christ Jesus, growing through riches of grace into an holy temple in the Lord from all eternity. Had the Parthenon, when completed, been broken into fragments and scattered over all the earth, there still would have been in each bit of marble the idea of the artist relating it to the pile of beauty for which it was cut from the mountains.

6. In his sermon on Mars Hill, St. Paul declared that God created of one blood all nations of men, that is, He created them all after one type and all men, as we have seen, are to come together into one body. They come out from God created through the Word, and they are to be gathered into one social whole through the Word made flesh. That is the teaching of the Bible on the subject. Let us turn to the facts of history. That the parts of humanity are pulling themselves together into one great organic whole is a truth we recognize at work before our eyes every day. That we are coming to unity in science, in commerce, in law, in ethics, and in religion is a fact of tremendous im-

port. Tennyson gives expression to his conception of this universal tendency among the nations in "Locksley Hall." Hear him rhyming the reality of the future:

"For I dipt into the future, far as human eye could see;
Saw the Vision of the world, and all the wonder that would be;

* * * * * *

"Far along the world-wide whisper of the south wind rushing warm,
With the standard of the people plunging thro' the thunder-storm;

"Till the war drum throbbed no longer, and the battle flags were furled
In the Parliament of man, the Federation of the world."

What does the coming together of the parts into one great human whole mean? Is it accidental? Is it in accordance with no divine prearrangement? Has man outgrown his type? Has he passed the ideas of his Maker? Has he climbed above the possibilities of his nature? Did Job have sight of a masterpiece not inherent in the intelligence of the first man? Did Isaiah see an era of coming peace not down in the original program of humanity? Did Raphael have a vision of beauty, the primal elements of which were not glowing in the imagination of Adam? Has anything been evolved by humanity that was not involved in the

first man's soul? If, then, man has not outgrown his type, nor passed the ideas of his Maker, nor climbed above the possibilities of his nature, does it not follow that men in coming together to form a vast human whole are simply conforming to the type after which they are made? We know that each member of the human race is an individual, but we know also that the person who finds himself simply and solely as an individual loses himself as a man. No single person can realize the type or idea of his life in independent, isolated, unrelated loneness. The mental, moral, commercial and spiritual capacity of the individual is empty until the common life of a larger organism flows in to fill it. Blackbirds find themselves in being hatched; but men, who are self-determining spirits, find themselves not at birth, but through social relations formed after birth. So men, as we find them to-day, are individuals, but, at the same time, ideal members of the human race. It looks like a contradiction, but it is true that the more completely individuals are compacted into one body, the more individual they are, and the more they are scattered and divided, the less individual they are. The Bedouin of the desert, whose life seems to be so utterly single and independent and lone, is not by an infinite degree as much of an individual as the citizen of London, whose being is but a strand woven in with millions of other animated threads.

7. Seeing, therefore, what the original pattern

of man's life is, as we are taught both by the words of Scripture and the facts of history, we are ready to make further inquiries bearing on our problem. That all men are being slowly drawn into a network of relations as wide as the globe will not be questioned. That all the nations of the earth are moving towards the "Parliament of man, the Federation of the world" is beyond dispute. That it is only a question of time when the race will be as one man, with all individuals fitly joined together and compacted by that which every joint supplieth, according to the effectual working in the measure of every part, is as certain as the rising and the sinking of the sun. We are concerned now to find out what life is large enough and rich enough and comprehensive enough and universal enough to flow through and animate and invigorate this majestic whole of humanity.

With the human mind thinking through hundreds of millions of brains, organized into one; and feeling through hundreds of millions of hearts, united into one; and willing through hundreds of millions of self-determining centres, bound into one; and acting through hundreds of millions of individual energies, concentrated into one, it can be readily seen that the life demanded by such a breathing, thinking, feeling, acting whole must be coloured by nothing provincial in national existence, by nothing local in religious devotion, and by nothing transitory in philosophical speculation. It must be a life from which all that is narrow and irrational is elimi-

nated, and in which all that is permanent and fixed and immutable in the nature of man is summed up fully and completely. It must be a life essentially and eternally fitted for the support of man as an individual and as a member of humanity. It must be able to follow him through all the changing circumstances of his growing personal and social existence, bringing forth new reserves of power for new exigencies, and revealing out of hundreds of millions of hearts thoughts which solve for men the problems of wider knowledge. It must be able to cope with all the parts and with all the combinations and united whole of the parts, severally and wholly, every moment. It must be a life in which pulsates all the truth philosophy seeks in speculation, and all the discipline ethics seeks in practice, and all the beauty art seeks in expression, and all the holiness religion seeks in devotion. It must be able to satisfy the speculative, the practical, the moral, and the religious wants of the individual, the society, the race in the complete course of their development, and in the manifold intensity of each separate human faculty. It must be immutable and inexhaustible and eternal. It must be the life of one who is the same yesterday, to-day, and forever. It must reach the whole sum of humanity and the whole of each separate individual. What life, we ask again, meets the requirements of this vast human whole that in a meagre sense was, in a larger sense is, and in the complete sense is to be?

"And all the more when these behold their Lord,
. . . and serve the Infinite
Within us, as without, that All-in-all
And over all, the never-changing One
And ever-changing Many in praise of whom
The Christian bell, the cry from off the mosque,
And vaguer voices of Polytheism
Make but one music, harmonizing 'Pray.'
I dreamed
That, stone by stone, I reared a sacred fane,
But loftier, simpler, always open-doored
To every breath from heaven, and Truth and
Peace
And Love and Justice came and dwelt therein."

8. Now, many leaders in religion, reformers in politics, thinkers in philosophy, explorers in ethics have arisen among men. Their lives and their contributions are a part of civilization; but who of them all has lived a life, if turned into the organized whole of humanity, would conserve it and nurture it and quicken it and inspire it, and lead it on forever into larger and richer and sweeter being? Buddha made a tremendous contribution to the general fund of religion. Is it thought by the consensus of the competent that organized humanity would be eternally safe and strong and growing if left with no other nourishment than such as could be appropriated from his life? To be held forever to the Hindu level of existence would not be promising for the fortunes of mankind. Confucius was a great teacher; but the height at which the Chinese have breathed for four thousand years is not exalted enough to lead any great number of

hearts to thrill at the thought of having to endure it world without end.

Plato was a great philosopher. But the soul of humanity would become as parched and dry and barren as the desert of Sahara were it shut up to subsisting on the reticulated mental landscape woven of the delicate fibres of his fine-spun speculation.

Mahomet, by means of the sword and his personal force, accomplished much towards reducing the tribes of Arabia to order. But who would consent to see all mankind come together for no higher reason than to support a harem on one side and an army on the other? Is it not perfectly clear, if man is formed round a plan, that the person who perfectly sets that plan to throbbing is the only one whose life can be introduced into individual and social existence with the perfect assurance that each part and the whole of all the parts will be safe, fully and thoroughly, in time and in eternity? If the life of the crucified, risen, and ascended Christ were flowing throughout all humanity to-day, whose interests would suffer? whose just cause would fail of a champion? What broken and bleeding specimen of human misery would continue to ache without a physician and without a friend? What capitalist would be robbed of his money, what poor man of the dignity that divine fellowship brings to indigence? Who would suffer without just cause, or who would fail of all his rights, if Christ were actually King? The life

of Christ owes its efficiency not to any theory held of it, not to any formula men have framed about it; its verification lies in its essential character. It is as independent of theologies as heat is of theories. It made the theologies and made the churches; and if all were suddenly removed from the earth, it would straightway lift itself into more systems of thought and more houses of worship. It is ancient as God, and modern as light.

VIII

Conclusion

VIII

CONCLUSION

THE title of this book is "The Religion of Science," and not "The Science of Religion." It is proper, perhaps, in conclusion to again make clear what is understood to be the difference between the one and the other. The science of religion is a body of verifiable knowledge formed by the study of all religions, just as botany is a system of verifiable knowledge formed by the study of all plants.

Students have carefully examined the expressions which the religious nature of man has, in his entire career, from savagery to the highest civilization, made of itself. They have explored all grades of religion represented severally by animism, fetishism, polytheism, Brahminism, Confucianism, Zoroastrianism, Buddhism and Christianity. By analysis and comparison they have found the idea underlying all religions. They have discovered that certain elements are common to all religions. In all there is a disposition to worship and in all there is the recognition of an object of worship. In all there is the perception of something upon which the worshipper depends and to which he feels himself accountable for his deeds. In all there is seen to be a tendency on the part of the dependent subject to placate by

acts of sacrifice or prayer the independent object, in order that terms of harmony may be reached between the two. The elements common to all religions, from the animism of the savage to the intelligent devotion of the saint, have been compared, sifted, classified and used as material for building the science of religion.

In all religions there is the recognition of a relationship between the worshipping subject and the worshipped object, and in all it is felt that this relationship is strained, or broken, and waits for reparation upon propitiation, penitence, adoration, or service.

1. Now, we call Christianity the Religion of Science, because it is found to be the perfect expression and complete realization of the idea, which students, who have formulated our science of religion, tell us is at the bottom of all religions.

The crude idea of religion animism feels in nature; the vague idea of the infinite Brahminism seeks in thought; and the incomplete idea of the divine the so-called ethical religions, such as Confucianism, Zoroastrianism and Buddhism, discern in conscience are manifestations at lower levels of human consciousness of the same idea that comes to perfect realization in the God and Father of our Lord Jesus Christ revealed in Christianity.

The dim idea of atonement, seen all the way down the religious scale in grotesque attempts to bridge the chasm between God and the guilty soul, is the same as that which is perfectly realized in

the full reconciliation with God, made possible by the suffering love of Christ, the Son of God and the Son of Man.

2. The idea of religion completely realized in Christianity is present in a more or less crude expression of itself in all religions. There are elements of truth, principles of goodness, partial revelations of God and the means of a certain degree of spiritual life in all religions, but they are mixed with so much of error that the peoples, who practice them, are unable to advance along lines of moral and social and spiritual health.

But while we recognize in Christianity the religion in which the fundamental idea underlying all religions is harmoniously and completely realized, it is not to be understood, because of this, that Christianity is an eclectic or composite system of spiritual reality made by putting together the good elements found in the different pagan religions. Christianity is indebted to no natural or heathen religion for one single item of its nature or power, but they are all indebted to it, not only for their existence, but especially for whatever good there is in them. Christianity is absolutely original. If it were not, it could not adequately and reasonably be represented as the religion of science. Christianity did not begin with the birth of Christ in Bethlehem; it is as old as God. It did not begin on Calvary; it was there it came to manifestation on the stage of history.

Christianity is the Religion of Science because it

is the Religion shown by the Science of Religion to be the perfect realization of the idea underlying all religions.

If, in the vegetable kingdom, we could find one tree that as completely summed up in itself and expressed the essential elements of all plants as does Christianity contain within itself and express the fundamental elements of all religions, then we might call that embodiment of the whole meaning of the vegetable kingdom the tree of science.

But the level of reality occupied by religions is as high above that upon which the trees grow as spirit is above matter. The ideas expressed by the trees are as various as the species to which they belong. A tree in the process of growing to the full dimensions of itself realizes the idea of its own particular species. In coming to be a magnificent expression of plant life, the oak does not need anything from the chestnut, or the maple, or the pine, or the dogwood, or from any other tree. The oak, the chestnut, the maple, the pine and the dogwood are severally expressions of different species of vegetable life. The essential elements of all of them could not be represented by any one of them. The law of exclusiveness reigns throughout the plant world, as it does throughout the world of the lower animals, but the law of inclusiveness, communion, is ordained to dominate the realm of the human spirit. Humanity is not an aggregation of different species of man, as one might call a pile of logs heaped together from all kinds of wood an aggre-

gation of the different species of trees. Trees are many, but man is one. "As we have many members in one body and all members have not the same office, so we being many are one body in Christ, and every one members one of another."

3. A well-nigh countless variety of plants of different species are found in the vegetable kingdom. The human kingdom is peopled by one single species of life. It takes all the thousands of species of plants on the earth to give us the science of botany. No single specimen, however perfect after its kind, could be selected as representing the perfection of all the other species. Each variety of plant follows in its growth the law of its own particular type. All plants put together might be called the trees of science, but no single species of tree could be called the tree of science, because no single tree represents any vegetable life except its own; its existence is not necessary for the completion of any other species of tree life. There is no great single idea underlying the whole of vegetable life that would make possible the organic unity of the plants.

4. It is true that all natural and pagan religions have come from the same human nature as that out of which Christianity sprang in the fullness of time. Man is naturally and essentially a religious being. Whether at the bottom or at the top of the scale of human development, he faces the same facts in himself, in his world and in his God. In all religions he recognizes himself as a finite being in

the presence of the infinite; in all he feels that the relation between the finite and the infinite should be one of harmony. The differences in his separate religions have been due to the different interpretations put at different heights of intellectual, moral and spiritual progress, on life and death, on suffering and retribution, on the finite and the infinite, and on methods of achieving peaceful relations between the human and the divine. The problem man has sought to solve in all religions has been precisely one and the same problem. In Christianity alone have the questions man has been putting to himself in all his religions been adequately answered. In Christianity the spiritual desire apparent in all religions is met and satisfied. In Christianity the germinal spiritual life principles in all religions come to flower. Natural and pagan religions are not understood until they are defined in Christianity.

We could not call Brahminism the religion of science any more than we could call the crab the apple of science. In the crab the complete meaning of the apple is not made clear, and in Brahminism the perfect definition of religion is not given. In Brahminism the idea of religion is not realized and the requirements of a religion for man as an individual and as a social being are not met. The God of Brahminism is one in so absolute and lone a sense that no place is left for finite objects. Counting as illusions all things other than its God, Brahminism keeps up the refining, sublimating

process, until even its God is left without moral distinctions, intelligence, freedom, holiness, or love.

To compare Christianity with natural or pagan religions is like comparing the five-toed horse of the primal ages with the finest specimen of the species found in the blue grass regions of Kentucky.

5. While Christianity is the outgrowth of the Logos in human nature, as all lower forms of religion are, yet the human nature out of which Christianity sprang had yielded itself in the chosen people to a process of specialization, training and discipline under divine providence and the Holy Spirit from the time of Abraham.

"Christianity," Augustine said, "existed among the ancients, and, in fact, was with humanity from the beginning." Dionysius declared that "Barbarian and Greek philosophy were but fragments torn from the theology of the Eternal Word." William Law taught that "Christ is the hidden treasure of every human soul, born as a seed of the Word in the birth of every soul, inured under flesh and blood." Justyn Martyr said, "Christ is the Word of whom every race of men are partakers." And Tennyson beautifully declared:

> "Though truths in manhood darkly join,
> Deep-seated in our mystic frame,
> We yield all blessing to the Name
> Of Him that made them current coin."

6. To find the meaning of Christianity, therefore, it is not necessary to look outside the confines of

human life. Christ introduced and acted in accordance with no principle foreign to man. He really identified Himself with the very principle man had followed in reaching whatever level of healthy life he had already attained at the time of Christ's appearance in history. Christ gave Himself wholly to that law of suffering love, which from the beginning had been the principle of human progress. St. Paul named this spiritual reality the cross of Christ in which he gloried, because by the practice of it he had found the secret of crucifying himself to the world, and of crucifying the world to himself. The cross he taught is an ideal reality, potential in the nobler side of every man. No man in all history ever moved up from the level of earthiness, except as he used the cross of Christ to subordinate his lower to his higher nature. Now, what earnest, self-sacrificing men had been doing in a limited way among all nations, Christ appeared in history to do completely. So after Him the principle of sacrifice He practiced was given His name; it was called the Cross of Christ. It was called, after Him, the Cross of Christ, because He emphasized it and illustrated its meaning to the extent of sacrificing His life in devotion to it as the only means of saving the world.

7. Man never knows what lies in the depths of his own nature until it finds expression. The Christ of history, dying for the sins of the world on Calvary, was but the externalization, in the form of flesh, of the interior, everlasting Christ, who has been sacri-

ficing Himself for the salvation of men since the beginning of time. The Christ, who had been working diffusedly in all men, who had been acting the part of an impersonal energy in men, according to their various capabilities and susceptibilities, finally, in the fullness of time, domesticated Himself in individual human life, becoming thereby the living epitome of what He had done and suffered, and would do and suffer throughout the ages, until the organization of the whole human race into one body under His leadership.

The deepest fact in the nature of every man is the image of God in him. The deathless verity, the unchangeable principle at the bottom of every man's spirit is the eternal idea Christ realized. The function of each individual, therefore, of all humanity, is to draw up into his bosom and into his consciousness, and manifest in the completed form of a perfect life, the divine manhood folded like a tree in the seed at the bottom of his being.

8. The actual man is often a first cousin, seemingly, to the lower animals, but even that man, by virtue of being made in the image of God, has the seed of immortality and of a magnificent personality planted in his nature. In the Christ of history and Calvary we see the purity and perfection, in human form, of the spirit that is in every man. In Christ the nature of man and the nature of God are one, as they are potentially one in every man. The mystery and wonder of God in man were not monopolized and exhausted by Jesus Christ. But it is

true that the divine manhood, in which the whole race shares, were in Him completely focused and declared. The truths, deep-seated in our mystic frame, were by Christ made current coin. What Christ actually was, all men through His grace and mercy may become. What Christ was, all men must become, if they are to find themselves and enter into possession of their eternal inheritance. All men are heirs of God, and joint heirs (co-heirs) with Christ to one and the same inheritance. In coming to perfect manhood through faith in Christ, man simply comes unto the measure of the stature of the fullness of himself. The level of Christ's life is the normal height of every man's life, when all means of grace are utilized for its completion.

9. Christ said, "Before Abraham was, I am."

The question is, What was Christ doing in the times before Abraham, and what was He doing from the time of Abraham to the beginning of the Christian era, and what has He been doing the past nineteen hundred years? The answer is clear. Before and after Abraham, and through all the ages from the first man to the present time, He has been doing precisely what He did when upon earth in the form of flesh; He has been laying down His life in order to receive it again. "This is why the Father loves Me—because I lay down My life—to receive it again." He was the Lamb slain from the foundation of the world, and He has been bleeding in humanity, or in the form of individual life representative of humanity, ever since man began

to breathe on earth. Through all the weary years He has been denied, mocked, buffeted, spit upon, crucified, but ever from ignominy He has risen in glory, and from death into immortality, and one can trace the undying fragrances of history to the paths followed by His bleeding feet. In Abel He might have said, "I lay down My life in this righteous man in order to receive it again in a life innocent of his brother's blood." In Abraham He might have said, "I lay down My life in this father of the faithful that I may receive it again in a nobler and purer state than that in Ur of the Chaldees." In Moses His life was crucified that He might find it again in liberation from the blighting bondage of Egypt. In David His life was crucified that He might find it again in songs that have cheered the hearts of all people through all the centuries. In the suffering of Isaiah, Jeremiah and all the prophets, He was afflicted that He might see the dawning of a brighter day.

10. Christ has been the inner ambassador and spokesman of the weak and downtrodden ever since Cain killed Abel. His has been the voice heard down in the hidden recesses of all the souls of men. His words, "I lay down My life—to receive it again," are in the continuous present tense. He said this before He knew the agony of Calvary. On that lonely height of suffering we get just a glimpse of the perpetual crucifixion of the Son of Man and the Son of God. In the death of Christ, man shared and God shared. What God

suffered then and what Christ, as humanity's representative, suffered, they together, with all holy men, have been suffering ever since, and will continue to suffer until all wrongs are righted.

The average opinion among Christians is that Christ did all the dying necessary to save the race. We sing, "He paid it all," but we should remember that we are to fill up in our afflictions what was behind, or lacking, in the sufferings of Christ. Christ was crucified not to save us from crucifixion, but to show us how the perfect man submits to it, and how all of us are called to submit to it. He lays down His life in as many selves as He can find with consecration enough to let Him do it. He is indifferent to age, nation or station. He found in pagan Job an opportunity to lay down His life, to receive it again in a better view of providence. In pagan Socrates He found a man through whom He could lay down His life, to find it again in nobler thought for the ages. He found in St. Francis a man through whom to lay down His life to find it again in sweeter living inaugurated by the faithful Franciscan monks. In Ignatius Loyola He had a chance to lay down His life to receive it again in the noble army of Jesuits, who did so much for humanity and civilization in the beginning of their career. In the great-hearted Jew, Sir Moses Montefiore, He lay down His life to receive it again in better conditions for a downtrodden, persecuted people. He found in John Wesley a soul through which He could lay down His life to receive it

again in the redeemed multitudes lifted from sin to holiness in the evangelical revival of the eighteenth century. In the beautiful Florence Nightingale He lay down His life to find it again in the shadows exchanged for light in the faces of dying soldiers.

11. That mankind is made of one stock, fashioned after one pattern, created in accordance with one plan, formed to fill out one program, is the teaching of science and Scripture. St. Paul and Herbert Spencer perfectly agree on this subject.

That the peoples of the human race from the beginning have been slowly and gradually pulling themselves together into larger and larger political, industrial and religious relationships, is the lesson of history. That all nations are ultimately to be linked and interlinked by international bonds, under the institutional and temporary forms of intellectual enlightenment, moral development and spiritual progress, is the conviction and working hypothesis of all great prophets and poets and statesmen to-day.

12. Nothing less than commercial, intellectual, ethical and spiritual unity is to be the final outcome of man's career on earth, for the simple reason that unity is the essential, fundamental fact at the bottom of his life. The deepest idea involved in human nature must inevitably, with time enough, and knowledge enough, and experience enough, be evolved in practical life. The seed that is involved in the acorn must, with soil enough, and rain

enough, and sunshine enough, and storms enough, be evolved in the full-grown tree. The unity inwrought in the structure of humanity was at the first elemental and embryonic, but as the inchoate, incipient unity innate in the seed is finally differentiated into the completely expressed unity of the multitudinous branches and fruit of the full-grown oak, so the potential unity built into the framework of original humanity must, through the ages, be wrought out actually into the life and institutions of a full-grown human social whole. Individuals are to become perfect through their vital partnership and relationship to one perfect universal man, to the making of whose vast life all the members of the race are necessary.

13. Up through the clash of battle and confusion of the years, up through the clatter of tongues and the strife of tempers, up through the bitternesses of political and ecclesiastical parties, we know that there has been coming, with the passing of the ages, deeper and sweeter and wider consciousness of unity. There is more of it now than ever before, and there will be more of it to-morrow than there is to-day. The upper currents of life in every nation are flowing, as not in any past period, towards one vast human ocean of good-will. Nothing, absolutely nothing, can arrest this warm gulf stream of our better nature until it has changed the social temperature of every shore. Its source is the head waters of human history. It flows straight from the eternal fountain and Word of

Life. It is refreshing the weary life of the nations with wider flow to-day than ever before, because the human channels are just now being more largely cleared and opened for its incoming.

Back of the life-force, the love-force, the unifying force of the world, is the One through whom and in whom God hath made all nations of men for to dwell on all the face of the earth.

14. Thomas Carlyle said: "There is a divine idea pervading the visible universe, which visible universe is, indeed, but its symbol and sensible manifestation, having in itself no meaning, or even true existence independent of it. To the mass of men this divine idea lies hidden, yet to discern it, and seize and live wholly in it, is the condition of all genuine virtue, knowledge, freedom and the end, therefore, of all spiritual effort in every age." The Greeks called the divine idea pervading the universe the Logos. St. John saw that the Christ of history was the embodiment, in the form of flesh, of the divine idea pervading the visible universe. Christ recognized Himself as the expression, on the stage of history, of the divine idea pervading the universe. In the Logos, the divine idea pervading the universe, all men were contained, as the possibilities of all wheat were in the first grain.

One idea, one plan, one pattern, one program lies folded in the constitution of man. To realize this idea, to work out this plan, to express this pattern, to fill out this program, is the purpose of God in history.

15. Darwin defined the law of the natural kingdom by the words, "the survival of the fittest in the struggle for existence." Far more living creatures are born than can possibly find standing ground and food. Their rate of increase must be held in check by carnage that drives the weak to the wall. Ninety-nine trees must be strangled in their cradle to give one a chance to rejoice in the sunlight; a thousand sparrows must bite the dust to furnish one an opportunity for existence; ten thousand insects must be swallowed in death in order that one may live its ephemeral life. To the law of the natural kingdom, however, in accordance with which the many are sacrificed for the sake of the few, it is said, we are indebted for the manifold tints and shades of the flowers, for the bright plumage of the birds and for the endless lines of beauty and strength and grace of the tiger, the lion, the giraffe and other animals. The charm and splendour of nature are said to be due to the aristocratic law of economy that puts to death the weak that the strong may survive. The brilliant tints of the butterfly's wing are distilled from the blood of its slaughtered companions.

16. The law of the human kingdom, which Christ illustrated, is the opposite of this. By its operation, the many who are weak are preserved against the few who are strong. Instead of driving to the wall the helpless as unfit to live, it pours strength and hope into their lives that they may be able to live. Animals become strong by crushing

the weak. Man becomes strong by lifting the weak. The law of the woods is physical, the law of human life is spiritual. When man lives by the law of the jungle, he becomes Rameses II, or Nero, or Caligula. When man follows the law of the spirit, which is that of the human kingdom, he becomes Moses, or St. John, or John Howard, or William Wilberforce. When woman follows the law of the animal kingdom, she becomes Jezebel, or Cleopatra, or Herodias, or Catherine de Medici. When woman follows the law of her life, she becomes Queen Victoria, or Florence Nightingale, or Frances Willard. Animals become beautiful by the expenditure of brute force in dealing out death to their species ; man becomes beautiful by the expenditure of spiritual force in dealing out life to those who are weak.

17. When brutes destroy one another, there is no loss to their species. If one squirrel should succeed in killing all other squirrels on earth, there would be no loss to the general fund of squirrelhood, for under the tail curled over his graceful back would still be carried the whole output of wealth ever possessed by the entire family of squirrels from the beginning of time. The aristocratic law of death and destruction, then, works no hardship in the animal kingdom. But in the human kingdom, every single life of the species, however diseased, poor and obscure, is of infinite worth, because absolutely necessary to the organized whole of the human race. It takes all the people who

ever did live, or that live now, or that ever will live, to enrich and completely equip the life of one man. Human beings are members one of another. When the poorest member is trodden underfoot, or thrown aside into a leprous heap of breathing refuse, the whole body of mankind would ache, if it were not partially numb and dead, as one unparalyzed individual body would ache, if its little finger were mashed to jelly.

18. By the study of life in the jungles, Darwin found the law of the animal kingdom exemplified in the sacrifice of the others for the sake of the self—the sacrifice of the weak for the sake of the strong. Jesus Christ represented the law of humanity as being exemplified in the sacrifice of the self for the sake of the others—the sacrifice of the strong for the sake of the weak.

Christ said: "He that findeth his life shall lose it; and he that loseth his life for My sake (for the sake of others) shall find it."

Huxley declared that humanity's march upward had been in obedience to a higher law than that of the jungle.

"The practice of that which is ethically best—what we call goodness or virtue—involves a course of conduct which, in all respects, is opposed to that which leads to success in the cosmic struggle for existence. In place of ruthless self-assertion it demands self-restraint; in place of thrusting aside, or treading down all competitors, it requires that the individual shall not merely respect, but shall

help his fellows; its influence is directed, not so much to the survival of the fittest, as to the fitting of so many as possible to survive. . . . Laws and morals are directed to the end of curbing the cosmic process and reminding the individual of his duty to the community, to the protection and influence of which he owes, if not existence itself, at least the life of something better than a brutal savage."

But he saw no valid reason, as far as humanity's future is concerned, for combating the cosmic law observed by the tiger and the hyena. He declared that:

"The most daring imagination will hardly venture upon the suggestion that the power and the intelligence of man can ever arrest the procession of the great-year."

In his esteem the globe must go on its downward road, ending at length in the defeat and decay of humanity, whether man observes the moral law or the animal law.

But Christ taught that the law of the sacrifice of self for the sake of others did not end in defeat, but was the shining way by which man found himself for time and eternity. The law Christ obeyed and announced as the universal law of human life is the one humanity is now beginning to recognize as the only rule for rational living.

19. A new day is breaking for humanity and it foreshadows the eternal noon of the day of the Son of Man and the Son of God. Peace pacts are

engaging the attention, not only of leaders in the Church, but of those also who have in charge the fortunes of the state. The law of sacrifice for the sake of others, every individual in the kingdom of man must obey in order to find himself, the human race is beginning to see is the law also for the nations. Statesmen in our own Republic are no longer satisfied with the meagre, provincial, local, American self we find, as a people, by gaining our national life enisled by gunboats and armies from the completest sympathy and fellowship with other great powers of the earth. To find ourselves after this fashion is finally to lose ourselves as Rome did, and as every other nation did that ever sought to find itself by practicing the law of the jungle. Norman Angell, in his epoch-making book, "The Great Illusion," shows that every victory achieved in accordance with the law of the hyena and the tiger by one people over another is more disastrous to the conquerors than to the conquered. If, then, nations lose themselves by finding themselves in conquest, why does it not follow that nations find themselves by losing themselves in good-will and service and sacrifice for other peoples? If Germany, by conquering England, as Angell shows, would bankrupt her people, why does it not follow that by serving England commercially, intellectually, morally, spiritually, and every other way, Germany would enrich her people? Is it not clear that when it becomes the settled custom among all nations to serve one another that each will, in turn,

find itself enriched and multiplied and augmented by the wealth and learning and industrial efficiency of all the others? Evidently, the nations cannot go on much longer dominated and controlled by the cosmic law of the woods. Inevitably, humanity must submit to the law of Christ, which is the essential law of man's life, or else the members of the human race must prepare for mutual self-destruction.

The dominion of the air now makes it possible for military aeroplanes to pass from Germany over to England and to blow up with sticks of dynamite every city in the United Kingdom. Men have at last learned how to kill one another after such complete and wholesale fashion, that they are forced to either love one another and serve one another and sacrifice for one another, or else, by attempting further to live under the law of the jungle, destroy one another.

It was by insight made possible through commerce with the law of the spirit of life which was in Christ Jesus that led Victor Hugo to say:

"While smitten with the fatal wanness of approaching doom, the flamboyant pleiad of the men of violence descends the steep slope to the gulf of devouring time: lo! at the other extremity of space, when the last cloud has but now faded in the deep sky of the future, azure forevermore, rises resplendent the sacred galaxy of the true stars—Orpheus, Hermes, Job, Homer, Æschylus, Isaiah, Ezekiel, Hippocrates, Phidias, Socrates, Sophocles, Plato, Aristotle, Archimedes, Euclid, Pythagoras,

CENTRAL RESERVE

Lucretius, Plautus, Juvenal, Tacitus, St. Paul, John of Patmos, Tertullian, Pelagius, Dante, Gutenberg, Joan of Arc, Christopher Columbus, Luther, Michael Angelo, Copernicus, Galileo, Rabelais, Calderon, Cervantes, Shakespeare, Rembrandt, Kepler, Milton, Molière, Newton, Descartes, Kant, Piranesi, Beccari, Diderot, Beethoven, Fulton, Montgolfier, Washington: and the marvellous constellations, brighter from moment to moment, radiant as a tiara of celestial diamonds, shine in the clear horizon, and, as it rises, blends with the boundless dawn of Jesus Christ."

20. When we recognize Christianity as the perfect realization of the divine idea pervading the entire religious area of human life, and as being the complete expression in history of the Eternal Word that in the beginning was with God and was God, it is not difficult to account for the success of Christ. He succeeds like the light—without Him black darkness envelops us. He succeeds like water—He keeps humanity refreshed. He succeeds like fire—He keeps the universe warm. He succeeds like bread—without Him the world would starve. He succeeds like truth—He is the only map there is of reality. He succeeds like law—He is the only cut and well-paved highway through the earth's tangled wilderness. He succeeds like music—in Him all sounds of conflict and trial and pain are reduced to harmony. He succeeds among men as mathematics does among values, without fidelity to figures the bank goes to the wall—with-

out loyalty to Christ life sinks into insignificance. Christ Himself said, "Apart from Me ye can do nothing." This is as absolutely true of man in regard to his dependence on Christ as if one might say without air the lungs cannot breathe, or without light the eye cannot see, or without sound the ear cannot hear, or without arithmetic man cannot count, or without obedience to the laws of his own being man cannot live.

Christ was the interior Mediator of man as created before He became the exterior Mediator of man as a sinner. He was in the world before the world saw Him in the flesh. The world was made by Him before He appeared to remake it by redeeming it and reorganizing it. He tried to save men from the inside of themselves and failed before He appeared to save them from the outside and succeeded. He was the implicit Christ before He became the explicit Christ. He was in the depths of human experience stirring the conscience before He found expression in the form of flesh giving triumph to life. He did not originate with sin. He was only brought to earth because of it, that He might rebuke it and save the world from it. He was working diffusedly in all men before He came to work directly upon them from the stage of history. He was at work as an impersonal energy throughout the consciousness of humanity before He appeared as an individual summing up what He had suffered since the first man sinned, and intimating what He must of necessity suffer

until all men were redeemed. He was the desire of all nations before they knew what they wanted. He was the One in whom the higher nature of man subsisted before it pleased Him to be made like unto His brethren, that He might lead them back to His Father and their Father. As the Logos out of the flesh He was identified with the inner nature of man before He felt impelled by the fact of sin to become the Logos in the flesh. He was the representative of humanity in God before He appeared on earth to represent the divinity in man. He was human in all eternity before He individualized His eternal humanity in time. He was the Archetype of man in heaven before He became the throbbing, suffering, self-sacrificing Pattern and Saviour of man on earth. The life He began to live on earth was not new to Him—it was the conditions under which He lived it that were new.

21. To say that Christ is divine, but that man is too, is like saying that the sun gives light, but that a candle does too. It is true that the candle in giving light sheds it by the same principle the sun follows in flooding the world with it, but every schoolboy knows that the candle would be as innocent of illumination as midnight but for the supply it receives from the sun. Man is constitutionally divine after the same fashion that Christ is, but only because he received his constitution from Christ and he is actually and practically divine only as he, moment by moment, receives into his divine constitution the inflowing and infilling, crucified,

risen and ascended life of the Son of God. Without Christ, he would not have been created divine; and without the crucified Christ making him free from the law of sin and death and enabling him to walk after the Spirit, he could not for one moment live the divine life. The want of clearness of thought in the direction of seeing the difference between the sense in which man is divine and in which Christ is divine, is bringing confusion to many minds. It all comes from the habit of many to begin their thinking of Christ at Bethlehem instead of at creation. It is impossible to work out the problems that hang about the self and the world and God, the final elements of all religion and all philosophy and all existence, without beginning our study at the source of things.

When we begin our study of Christ at creation we find that He is involved in humanity, just as when at a lower level of existence we begin our study of the oak with the acorn do we find that the tree is involved in it. The germ of life in the seed passes in a few years through different stages of growth to seed again, and thus completes the short vegetable round from acorn to acorn. But to complete the infinite adventure of divine love from Christ the first born of all creation to Christ again as reproduced in the countless differentiations of Himself parcelled out in all individuals of all generations of mankind to the end of time will require all the years of human life on earth, from the first man to the last one.

Man, according to the geologists, has used up only about one-half of one per cent. of all past time in arriving at the level of life he now occupies. He is just beginning his career on the earth. God has purposed within Himself through Christ to work out a program in history such as only a few prophets and inspired writers of our race have even dreamed. According to St. Paul, the divine purpose contemplates not only the perfection of men as individuals, but the perfection of humanity as an organized social whole.

Browning, the greatest of our modern seers among the poets, teaches that individuals will never know what life really is until in the distant ages they have conformed to conditions which will make it possible for them to partake of it as found in the perfected life of all mankind.

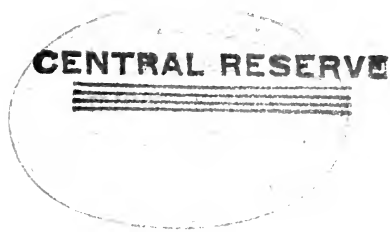
> "Man is not man as yet,
> Nor shall I deem his object served, his end
> Attained, his genuine strength put fairly forth,
> While only here and there a star dispels
> The darkness, here and there a towering mind
> O'erlooks its prostrate fellows, when the host
> Is out at once to the despair of night.
> When all mankind alike is perfected,
> Equal in full-blown powers—then, not till then,
> I say, begins man's general infancy.
>
> * * * * *
>
> Then shall his long triumphant march begin,
> Thence shall his being date."

To hasten the coming of the day when, according to the poet, man shall begin his general infancy,

St. Paul tells us to be no more children tossed to and fro, and carried about with every wind of doctrine by the sleight of men and cunning craftiness whereby they lie in wait to deceive: But speaking the truth in love, to grow up into Him in all things, which is the head, even Christ.

The study of religion from animism, the lowest, to intelligent devotion, the highest expression of it, reveals it to be that in man by which he is attracted towards God. "God," said ancient Hooker, "is not only one, but very oneness." Religion, then, is that in man by which he is attracted towards oneness, towards the oneness of God which enfolds him, and towards oneness with others of his kind who are essentially and by creation members with him of the same social, human body. This being the general and universal and everlasting fact of religion, the question is what particular form of religion has shown itself capable of realizing the idea wrapped up in the fact of it. Find that and you have found the religion of science. Christianity authenticates itself as the absolute and universal, and, therefore, the religion of science, by its program of unity for all mankind, by its verifiable method of at-one-ment for bringing all human beings together in one body, and by the verifiable, sacrificing power of love it vouchsafes for realizing its program, and for making effective reconciliation between God and man, and between man and others of his kind. Christianity is not a speculative, but a dynamic religion. It makes its way not by its

theories, but by its practical results. It triumphs primarily by what it inspires men to do, and not by what it provokes them to think. It objectifies itself in character, in laws, in governments, in art, in literature through the action of the will, just as electricity through the will objectifies itself in the railway train and into the duplication of sunlight in the streets at midnight.



2 Printed in the United States of America